

**EPA Superfund  
Record of Decision:**

**PLATTSBURGH AIR FORCE BASE  
EPA ID: NY4571924774  
OU 18  
PLATTSBURGH, NY  
06/20/2003**

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**SITE SS-026**  
**EXPLOSIVE ORDNANCE**  
**DISPOSAL RANGE**

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**RECORD OF DECISION**

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***Plattsburgh Air Force Base***  
***Installation Restoration Program***



**United States Department of The Air Force**  
**Plattsburgh Air Force Base**  
Plattsburgh, New York

**Final**  
**March 2003**

**SITE SS-026  
EXPLOSIVE ORDNANCE  
DISPOSAL RANGE**

**RECORD OF DECISION**

**PLATTSBURGH AIR FORCE BASE  
PLATTSBURGH, NEW YORK**

**UNITED STATES DEPARTMENT OF THE AIR FORCE  
INSTALLATION RESTORATION PROGRAM**

**Prepared by:**

**URS GROUP, INC.**

**FINAL**

**MARCH 2003**

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## **DECLARATION FOR THE RECORD OF DECISION**

### **Site Name and Location**

Plattsburgh Air Force Base  
Site SS-026, Explosive Ordnance Disposal Range  
Plattsburgh, Clinton County, New York  
EPA ID # NY4571924774

### **Statement of Basis and Purpose**

This Record of Decision (ROD) presents the selected remedy for the Explosive Ordnance Disposal Range (site SS-026) at the Plattsburgh Air Force Base (AFB) in Plattsburgh, New York. It has been developed in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), and to the extent practicable, the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). This decision is based on the Administrative Record for the site, a copy of which is located at the Information Repository at the Feinberg Library on the campus of the State University of New York at Plattsburgh.

The remedy has been selected by the United States Air Force (USAF) in conjunction with the United States Environmental Protection Agency (USEPA) and with the concurrence of the New York State Department of Environmental Conservation (NYSDEC) pursuant to the Federal Facilities Agreement among the parties under Section 117(a) of CERCLA, dated July 10, 1991. A copy of the NYSDEC concurrence letter is included as Appendix E of this ROD.

### **Assessment of the Site**

The Explosive Ordnance Disposal (EOD) Range is an approximately eight-acre area located in the southwest portion of Plattsburgh AFB. SS-026 was used primarily for explosive ordnance demolition and disposal. Magnesium flares, Mace, tear gas, RR 119, and ALA 40 were also disposed of and burned at the site (RR 119 and ALA 40 are Air Force designations for magnesium-based flare/illumination munitions).

A Preliminary Assessment for SS-026 was completed in 1992. The investigation included a review of historical records, personnel interviews, and a site walkover. Because of the ordnance disposal activities and the historical use of defoliant and diesel fuel, the site was recommended for further investigation. In July 1994, USAF EOD personnel conducted a survey to locate and dispose of unexploded ordnance at the site in preparation for subsequent site investigations. Based upon the recommendation of the Preliminary Assessment, a Site Investigation (SI) was initiated in the summer of 1994 to describe the physical conditions of the site, to evaluate the nature and extent of chemical contamination in the site groundwater and soils, to evaluate the risks posed by site contaminants to human health and the environment, and to determine if remedial or removal actions were warranted. In 1997-1998, explosive ordnance range clearing was undertaken at the site. The clearing included sensing of potential ordnance using magnetic detection equipment, excavation and sifting of at least the top four feet of soil over the entire EOD Range, and clearing of a 32.5-acre buffer zone around the range to a depth of one foot. This work was conducted consistent with Department of Defense and EPA Management Principles for Implementing Response Actions at Closed, Transferring, and Transferred Ranges (Interim Final, March 7, 2000). Several discoveries were made that were considered evidence of potential for impact to human health or the environment including buried drums, chemical warfare training materials, and debris/fill. The drums were removed in 1997 and the chemical warfare training materials were removed in 1998.

In groundwater sampling conducted in 1999 as part of the SI, only two chemicals, iron and selenium, were detected above chemical-specific Applicable or Relevant and Appropriate Requirements (ARARs) in groundwater sampled at SS-026, but these compounds were at levels similar to regional background concentrations. Carcinogenic risk calculated for hypothetical future potable use of groundwater fell within the range of risk ( $10^{-4}$  to  $10^{-6}$ ) that can be considered acceptable on a case-by-case basis according to current USEPA guidelines. Non-carcinogenic risks associated with potable use of site groundwater were within acceptable levels. Further SI characterization (including investigation of debris/fill areas) conducted in 1999, revealed no evidence of chemical warfare agents in site soils. Soils generally contained organic chemicals at concentrations below New York State guidelines; however, high concentrations of polycyclic aromatic hydrocarbons (PAHs) were present that were associated with a tar-like material discovered in an area of fill located south of the EOD Range. The April 2000 Draft-Final SI

concluded that, other than in the area of high PAHs, no unacceptable human health risk was associated with exposure to site soils.

Soil, tar-like material, pieces of asphalt, and miscellaneous debris that included scrap metal and metal cans covered with tar were removed in 2001 during an investigation of the tar-like material. This resulted in the removal of the remaining principal threat waste at the site, and human health risks from site soils were reduced to acceptable levels.

The actions undertaken at SS-026 to date have resulted in the reduction of contamination to levels that do not pose a threat to human health or the environment. Therefore, the USAF has determined that the principal threats at SS-026 have been eliminated; hence, no further action is necessary to protect public health, welfare, or the environment.

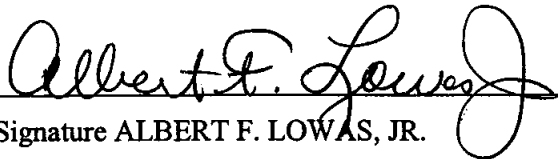
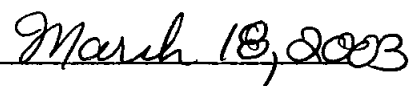
### **Description of the Remedy**

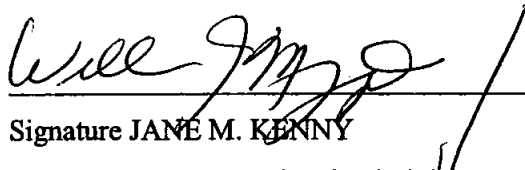
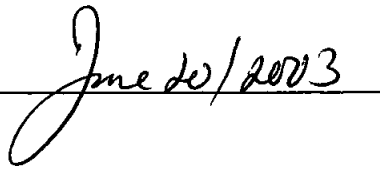
Site SS-026 is one of several sites (or operable units) administered under the Plattsburgh AFB Installation Restoration Program (IRP). RODs have previously been signed for fourteen operable units at the base, and additional RODs are planned for other sites at the base. It is intended that the selected remedy (no further action) be the final action for site SS-026.

Actions undertaken during explosive ordnance range clearing implemented in 1997-1998 (removal of 55-gallon drums and chemical warfare training kits) and the 2001 trenching investigation (disposal of tar-like material, pieces of asphalt, and miscellaneous debris that included scrap metal and metal cans covered with tar) are considered to have been successful in eliminating the principal threats at site SS-026. Soil sampling and analysis conducted during the 1999 SI and 2001 trenching investigation sampling events indicate that residual contamination at the site is at or below levels considered protective of human health and the environment. Therefore, no further action will be undertaken and no restriction on reuse of the site through institutional controls will be imposed for site SS-026.

### Statutory Determinations

The selected remedy for SS-026 (no further action) is protective of human health and the environment, complies with federal and state Applicable or Relevant and Appropriate Requirements, and is cost effective. A five-year review will not be required for this remedy according to Section 121(c) of CERCLA because no hazardous substances, pollutants, or contaminants are remaining at the site at levels that would not allow for unlimited use and unrestricted exposure.

   
Signature ALBERT F. LOWAS, JR.  
Director, Air Force Real Property Agency

   
Signature JANE M. KENNY  
USEPA Region 2, Regional Administrator



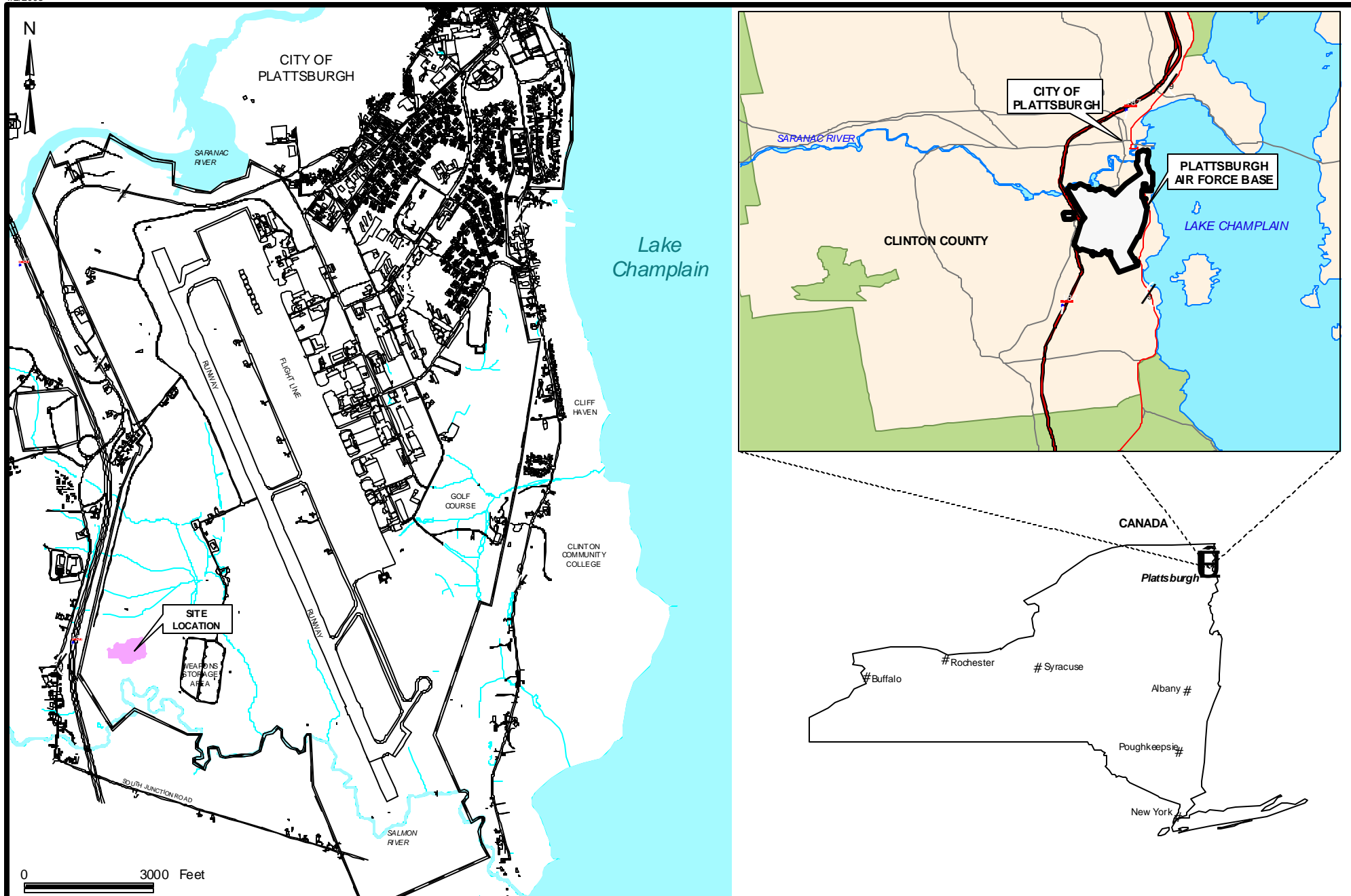
## **DECISION SUMMARY**

### **1.0 SITE NAME, LOCATION, AND DESCRIPTION**

Plattsburgh AFB, located in Clinton County in northeastern New York State, is bordered on the north by the City of Plattsburgh, on the south by the Salmon River, on the west by Interstate 87, and on the east by Lake Champlain. The base is approximately 26 miles south of the Canadian border and 167 miles north of Albany. Plattsburgh AFB was closed on September 30, 1995 as part of the (third round of) base closures mandated under the Defense Base Closure and Realignment (BRAC) Act of 1993, and its reuse is being administered by the Plattsburgh Airbase Redevelopment Corporation (PARC). PARC is responsible for maintaining base property, marketing and controlling base reuse, leasing and managing property, and developing base facilities, as necessary, to promote advantageous reuse. The 1995 base reuse plan, developed and issued by PARC (PARC 1995), indicates an industrial or public/recreation reuse for the SS-026 site. The base land reuse plans were incorporated into the Environmental Impact Statement (Tetra Tech 1995). As part of the USAF's Installation Restoration Program (IRP), Plattsburgh AFB has initiated activities to identify, evaluate, and restore identified hazardous material disposal areas. The IRP at Plattsburgh AFB is being implemented according to a Federal Facilities Agreement (Docket No.: II-CERCLA-FFA-10201) signed between the USAF, USEPA, and NYSDEC on July 10, 1991. Plattsburgh AFB was placed on the National Priorities List on November 21, 1989. Cleanup is being funded by the USAF.

The EOD Range is an approximately eight-acre area located in the southwest portion of Plattsburgh Air Force Base (Figure 1). Site features are shown on Figure 2. SS-026 was used primarily for explosive ordnance demolition and disposal. Magnesium flares, Mace, tear gas, RR 119, and ALA 40 were also disposed of and burned at the site (RR 119 and ALA 40 are Air Force designations for magnesium-based flare/illumination munitions).

Ordnance was placed in "burn kettles" (i.e., a reinforced dumpster or jet engine cover) within earthen berms. Wood and approximately five gallons of diesel fuel were then placed in the kettle and detonated with powder using a timed fuse. After each "burn," EOD personnel would clear the area within 200 feet of the "kettle" of visually apparent material and ordnance debris. The earthen berms were bulldozed periodically to maintain their shape and to clear the



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PLATTSBURGH AIR FORCE BASE  
SS-026 SITE LOCATION MAP

FIGURE 1



area of combustible material (i.e., grass and trees). Reportedly, an unknown defoliant was also used for this purpose for three years.

In addition, the EOD Range was reportedly also used as a burial site for animals and small amounts of household waste. EOD personnel would commonly find bones, dishes, and silverware during range clearance. Chemicals of potential concern include byproducts of military ordnance disposal (metal and explosives), defoliants, and diesel fuel.

In 1995 (as shown on Figure 2), the site was relatively flat, sandy, and unvegetated with the exception of three "U"-shaped earthen mounds present in the central portion of the site that were used to contain ordnance explosions. These berms have since been sifted and stockpiled onsite. The range is situated approximately 350 feet north of the Salmon River. The area surrounding the site is wooded and is remote from the industrial and residential portion of the base. Precipitation primarily infiltrates to groundwater and no significant runoff pathway exists to the Salmon River. The most significant pathways for potential contaminant migration at the site are leaching of soil contaminants to groundwater, chemical transport within the unconfined aquifer, and wind entrainment of chemicals adhering to surface soils.

A closed construction and demolition debris landfill (LF-024) lies adjacent to the southwest edge of the EOD Range. This landfill, capped in 1997-1998, was the subject of a separate investigation by the USAF. A Record of Decision was signed for the site in 1997 (URS 1997). Groundwater monitoring is ongoing.



## **2.0 SITE HISTORY AND ENFORCEMENT ACTIVITIES**

Prior to base closure in 1995, the EOD Range (SS-026) was used primarily for explosive ordnance demolition and disposal. Magnesium flares, Mace, tear gas, RR 119, and ALA 40 were also disposed of and burned at the site. In addition, ordnance disposal activities included the historical use of defoliant and diesel fuel. Investigation and other activities that have been undertaken that address this contamination to date are listed below. These activities are described in greater detail in Section 5.0.

<b>Timeframe</b>	<b>Activity</b>	<b>Description</b>
1992	Preliminary Assessment (Malcolm Pirnie 1992)	Site walkover and historical research.
1994	Selective Clearing by USAF EOD Personnel for Unexploded Ordnance (UXO)	Site cleared where SI activities were to occur. Household waste, magnesium flares, and hand grenades were found.
1994	Site Investigation (SI) (URS 1995)	Chemical contamination in the site groundwater and soils evaluated; included advancing 7 soil borings, installing 4 groundwater monitoring wells, and collecting 8 soil and 5 groundwater samples.
1997-1998	Post-SI Range Clearing Operations (Human Factors 1999)	Comprehensive UXO clearing. Buried drums, chemical warfare training materials, and debris/fill discovered. The buried drums and chemical warfare training materials were removed in the Fall of 1997 and 1998.
1999	Supplemental SI Field Activities (URS 2000)	One additional monitoring well was installed and groundwater from 6 wells, 17 soil samples, and 2 groundwater seep samples were collected and chemically analyzed. Fourteen test trenches were excavated.
2001	Investigatory Excavation (Versar 2002)	During investigation of tar-like material, this material, soil, pieces of asphalt, and miscellaneous debris that included scrap metal and metal cans covered with tar were removed. Additional soil samples were collected.

### **3.0 COMMUNITY PARTICIPATION**

The Air Force kept the community informed regarding progress at site SS-026 during quarterly Restoration Advisory Board (RAB) meetings open to the public. This board consists of the BRAC Cleanup Team (BCT) members (key representatives from the USAF, USEPA, and NYSDEC), a representative of the New York State Department of Health (NYSDOH), and representatives from municipalities, community organizations, and associations including community members with environmental/engineering expertise. The RAB, which was chartered in 1995, serves as an open forum for the community to become familiar with the restoration activities ongoing at Plattsburgh AFB and to provide input to the BCT.

The Site Investigation Report (URS 2000), Proposed Plan (URS 2002), and other site-related documents in the Administrative Record have been made available to the public. The full-length reports have been available at the Information Repository located at the Feinberg Library at the Plattsburgh campus of the State University of New York. A notice of availability of these documents was published in the *Plattsburgh Press Republican* on December 10, 2002. In addition, a 30-day public comment period was held from December 10, 2002 to January 8, 2003 to solicit public input. During this period, the public was invited to review the Administrative Record and comment on the preferred alternative being considered.

In addition, a public meeting was held on December 12, 2002 at the Old Court House, Second Floor Meeting Room, 133 Margaret Street, Plattsburgh, NY. The meeting was divided into two segments. In the first segment, data gathered at the site, the preferred alternative, and the decision-making process was discussed. In the second segment, a formal public meeting was held to accept comments about the No Further Action remedial alternative proposed for the SS-026 site. A copy of the meeting transcript was added to the Administrative Record and Information Repository. This transcript is included as Appendix C of this ROD. The Air Force's Responsiveness Summary is included as Appendix D. Public comments from the meeting were transcribed (Appendix C) and are discussed in the Responsiveness Summary.

#### **4.0 SCOPE AND ROLE OF OPERABLE UNIT**

Site SS-026 is one of several sites (or operable units) administered under the Plattsburgh AFB IRP. Records of Decision have been signed for fourteen operable units at the base, and additional Records of Decision are planned for other sites. The SS-026 Operable Unit includes both soil and groundwater. Actions conducted at the site to remove drummed waste, PAH-contaminated soil, and other debris and potentially contaminated materials have removed the principal threat wastes at the site. It is intended that the action presented in this Record of Decision be the final action for SS-026.

## **5.0 SITE CHARACTERISTICS**

Based on site history, the major contaminants of concern at SS-026 are related to ordnance disposal, defoliant, and diesel fuel. Ordnance was disposed of in “burn kettles” that used wood, diesel fuel, and blasting powder within earthen berms, which were bulldozed periodically to maintain their shape. In addition to bulldozing, defoliant was used to clear the area of combustible material. Other materials of concern included drummed waste oil, chemical warfare training materials, tar-like material and adjacent soil, and miscellaneous debris that were found during investigations at SS-026. Investigations and activities at the site are summarized below.

### **5.1 Preliminary Investigations**

A Preliminary Assessment (PA) for SS-026 was completed in 1992 (Malcolm Pirnie 1992). The PA included a review of historical records, interviews with base personnel regarding site use, and a site walkover. Based on the ordnance disposal at the site and the historical use of defoliant and fuel oil, the site was recommended for further investigation.

In July 1994, USAF EOD personnel performed sporadic trenching while clearing the site of unexploded ordnance in preparation for a SI in the summer of 1994. During the trenching, an approximately six-inch-thick layer of household waste was discovered within two feet of the surface immediately east of the bermed area. In addition, magnesium flares were discovered at a depth of approximately two feet near a boring location within the bermed area. Several unexploded hand grenades were found near the berm in the northeast corner of the site and were disposed of by EOD personnel.

### **5.2 Draft Site Investigation**

In 1994, an SI was conducted to describe the physical conditions of the site, to evaluate the nature and extent of chemical contamination in the site groundwater and soils, to evaluate the risks posed by site contaminants to human health and the environment, and to determine if remedial or removal actions were warranted. SI field activities included the advancement of seven soil borings, installation of four groundwater monitoring wells, collection and chemical



analysis of eight soil samples, collection and chemical analysis of five groundwater samples, and observations of the site's physical condition (see Figure 3). These data were compiled and utilized to quantitatively assess potential risks posed by site contaminants to human receptors.

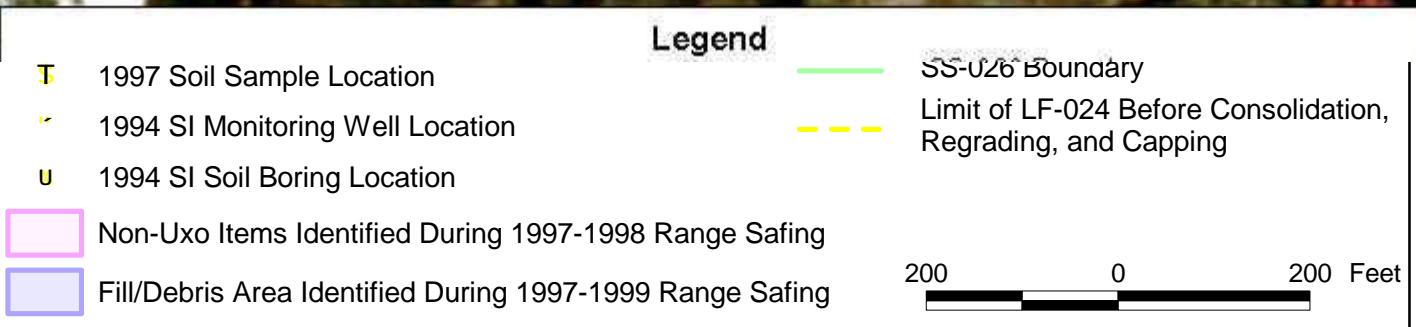
It was found that the soils at SS-026 contained acetone, methylene chloride, toluene, 4-4'-DDT, and RDX, but none of these compounds were detected at levels that exceeded "To Be Considered" (TBC) criteria (see Appendix A, Table A-1). The metals antimony, cadmium, chromium, and silver were detected at concentrations elevated relative to background soils at Plattsburgh Air Force Base; however, no unacceptable carcinogenic or non-carcinogenic human health risk was found to be associated with exposure to the site's soils.

Only iron was detected above chemical-specific ARARs in the sampled groundwater, but this chemical was at levels similar to regional background concentrations. The recommendation of the Draft Site Investigation Report (URS 1995) was that no action appeared warranted to remediate chemicals present on site due to past site activities (see Appendix A, Table A-2).

### **5.3 Range Clearing Operations**

During extensive, post-SI range clearing operations conducted in 1997 and 1998 (Human Factors 1999), several discoveries of items other than unexploded ordnance (UXO) were made that were considered to be evidence of potential for impact to human health or the environment. These included buried drums, chemical warfare training materials, and debris/fill (see Figure 3).

Twenty-seven buried 55-gallon drums containing what appeared to be waste oil were found in the west-central portion of the site. The drums seemed to be intact upon discovery; however, two were punctured. They were overpacked, sampled, and staged in the fall of 1997. Sample results confirmed that the material was waste petroleum product and the drums were disposed of off site in the spring of 1998. A single empty 55-gallon drum (later disposed of as scrap) also was found in the northeastern section of the site. Samples were taken from soil surrounding the drums; the soil samples were found to contain organic compounds and metals, but at concentrations below regulatory guidelines (see Appendix A, Table A-3).



Buried chemical warfare agent training materials were discovered in October 1997 in the north-central part of the site. These materials included an empty war gas identification set storage container, eight empty glass jars used to hold tear gas capsules, and 48 empty glass vials used to hold diluted chemical warfare agents. The materials were also removed in 1998.

In addition, several areas of scattered debris were identified to the north, east, and south of the EOD Range. The most significant and extensive of these areas was situated to the south of the open EOD Range along a steep slope to the north of the Salmon River in an area termed the “Satellite Fill Area” (Figure 3).

Range clearing was conducted (100% surface and subsurface clearance) over an approximately 6.5-acre area by Human Factors Applications, Inc. (HFA) of Holicong, Pennsylvania to a depth of at least four feet. The range clearing activities consisted of mapping in detail Site SS-026, locating unexploded ordnance (UXO) and inert ordnance both visually and through indirect means using magnetometers, and removal of the UXO and inert ordnance. Heavy equipment and sifters were also used to sift UXO and inert ordnance from soils. Two deep disposal trenches were located and excavated to a depth of 10 feet and 16 feet, respectively. An additional 32.5 acres surrounding the range (the “buffer zone”) was cleared to a depth of one foot.

Based on the site explosives ordnance clearing work performed, the range clearing contractor (Human Factors Applications, Inc.) recommended to the United States Army Corps of Engineers (USACE) that the site is suitable for unrestricted reuse. The USACE issued a “Statement of Clearance” on July 16, 1999. This statement recommends that the range “be used for any purpose for which the land is suited.” The statement and related information are presented in Appendix B.

#### **5.4 Additional SI Sampling**

Supplemental SI field activities were conducted in 1999 in response to regulatory agency comments to the Draft SI Report and to investigate several areas of potential for impact to human health or the environment discovered during the 1997/1998 range clearing operations.

During this phase of investigation, one additional monitoring well was installed and groundwater from six wells, 17 soil samples, and two groundwater seep samples were collected and chemically analyzed (Figure 4). In addition, 14 test trenches were excavated and the extent of buried debris was delineated (Figure 5). Some of the chemical analyses performed were targeted to evaluate the presence of chemical warfare agents and their breakdown products (thiodiglycol, arsenic, chloroform, 2-chloroacetophenone, and chlorobenzylidenemalonitrile) and herbicides (dioxins/furans); these chemicals either were not detected or were not detected at concentrations posing a concern to human health and the environment. Generally, the sampling results indicated only minor impacts to soil and groundwater related to past activities at the site (See Appendix A, Tables A-4 through A-8).

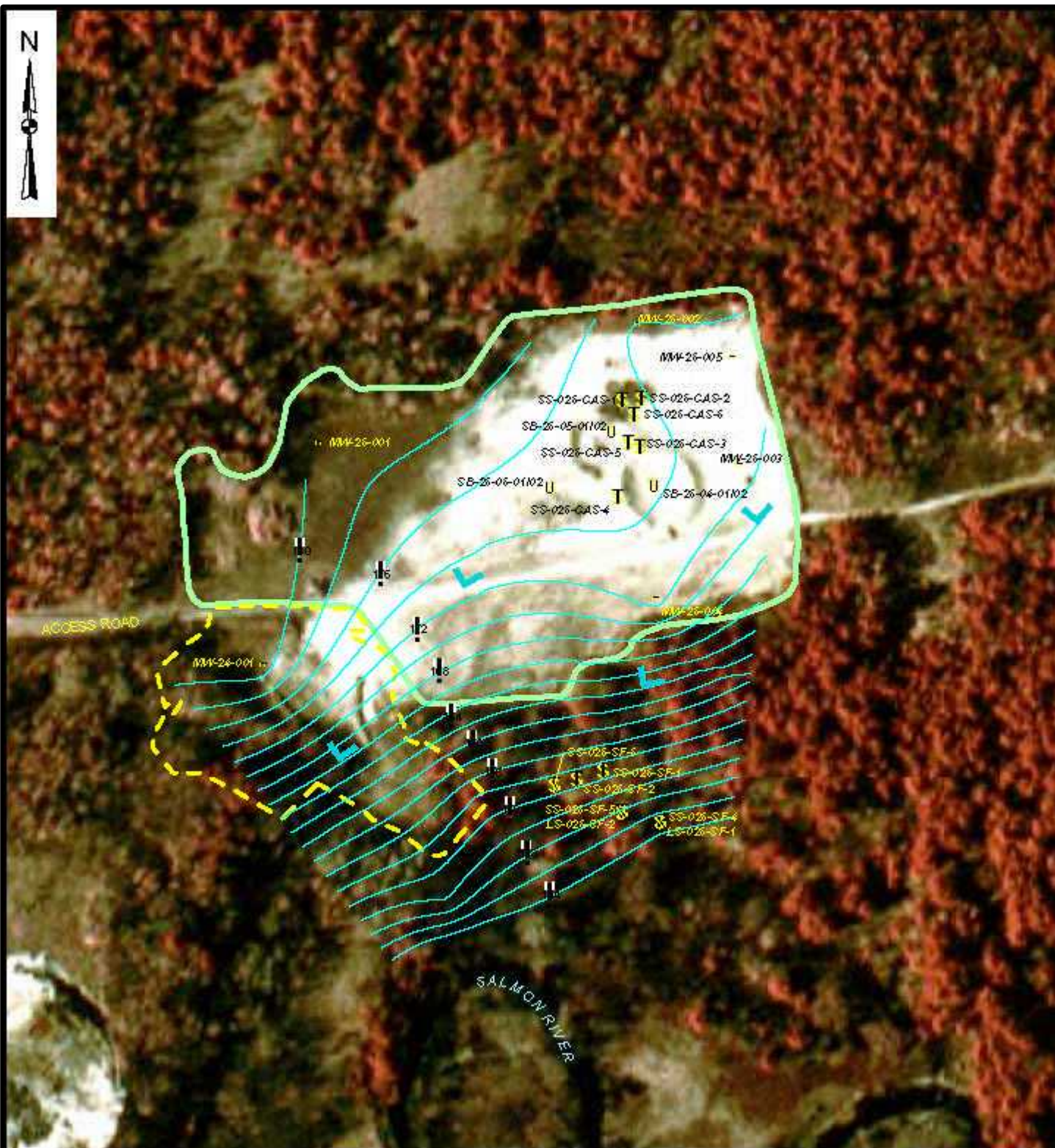
However, one soil sample contained 12 PAHs at concentrations exceeding their respective TBC values (Appendix A, Table A-6). These exceedances occurred in the vicinity of a tar-like substance located in the “satellite fill area” (Figure 3) located south of the EOD Range. Results from this sampling are discussed further in Section 5.6.

The Draft-Final SI Report (URS 2000) also evaluated risks posed to human health based on the newly collected data. Risks are discussed in Section 7.0. The report recommended that 1) the tar-like material containing high levels of PAHs be further investigated and potentially removed and 2) surficial metallic debris in the “satellite fill area” be removed to eliminate any physical hazards. Some of the metal debris was removed at the end of the SI field effort.

## **5.5 Investigatory Excavation**

An excavation to further investigate the tar-like material found in the “satellite fill area” was undertaken in 2001. Soil, tar-like material, pieces of asphalt, and miscellaneous debris that included scrap metal and metal cans covered with tar were removed and staged in a roll-off container. The excavated soil and tar-like material exhibited no odors or headspace photoionization detector (PID) readings above background levels. Four soil samples were collected from the approximately 10-foot-long by 8-foot-wide excavation, which was about one foot deep. Only low levels of PAHs were detected in the samples. The excavated materials were properly disposed of at CWM Chemical Services’ permitted facility located in Model City, NY.





### Legend

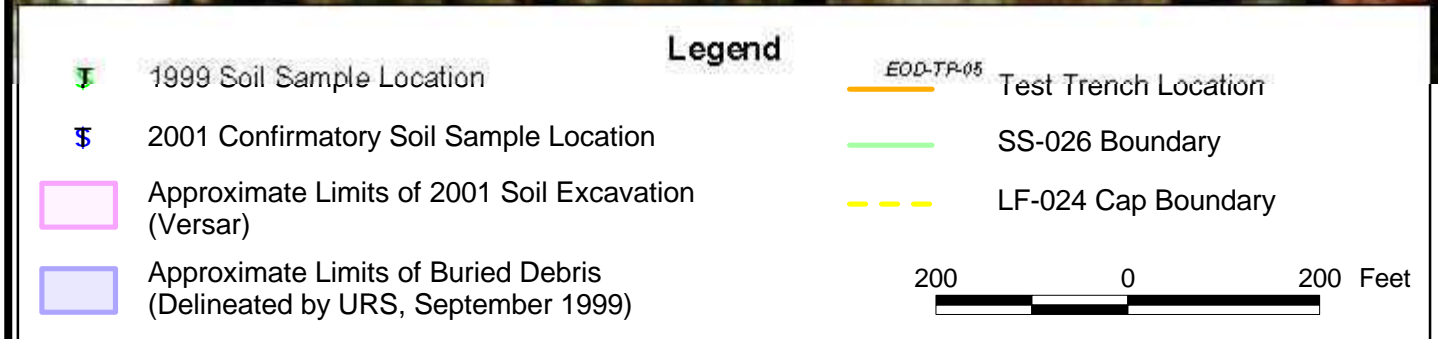
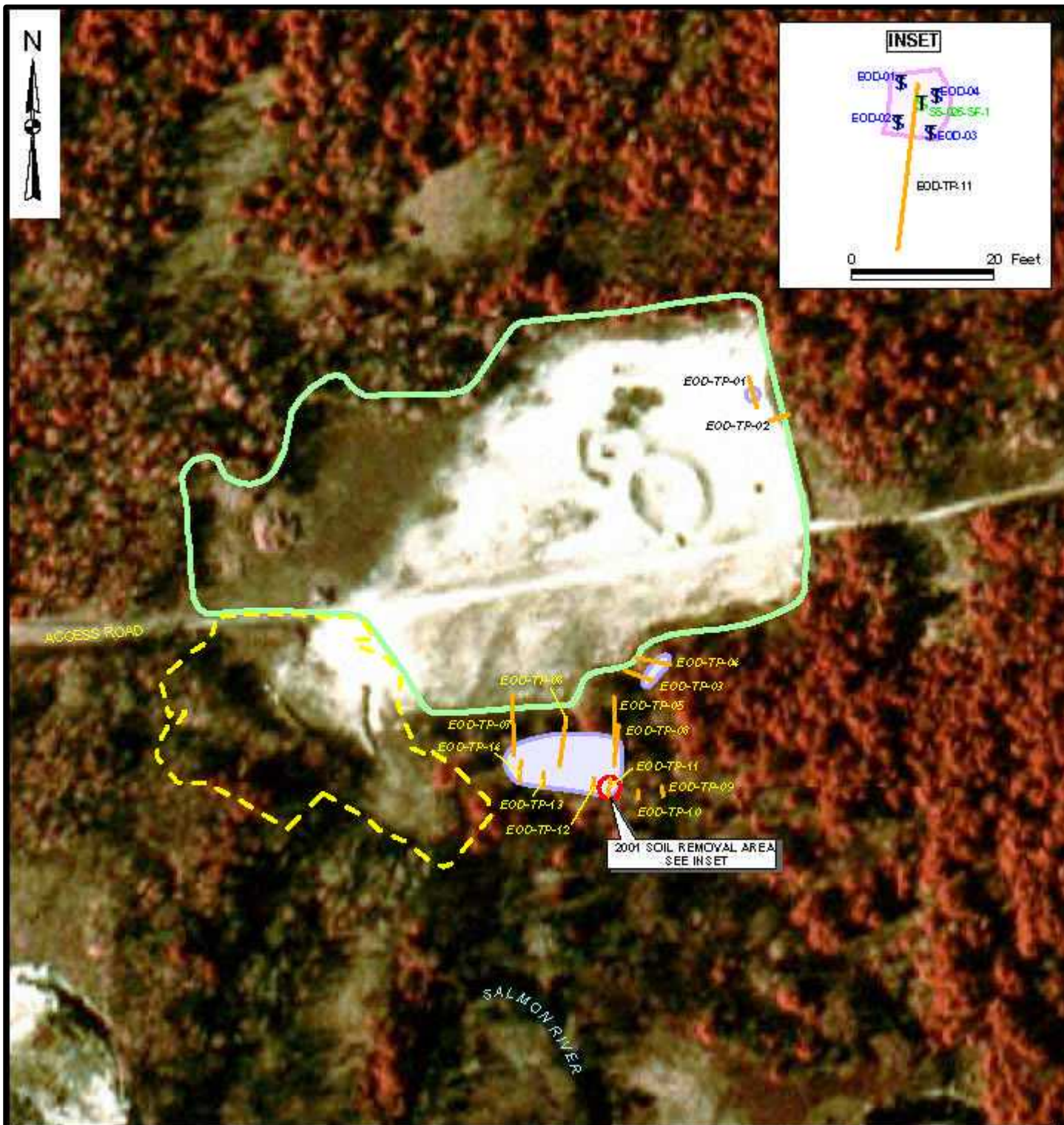
- Monitoring Well Location
  - Soil Boring Location
  - Surface Soil Sample Location
  - Surface Soil/Groundwater Seep Sampling Location
  - SS-026 Boundary
  - LF-024 Cap Boundary
  - Groundwater Elevation Contour (ft amsl)
  - Groundwater Flow Direction
- 200 0 200 Feet

**URS**

PLATTSBURGH AFB - SS-026 (EOD RANGE)  
1999 SUPPLEMENTAL INVESTIGATION  
ENVIRONMENTAL SAMPLE LOCATIONS

FIGURE 4





Based on the soil sample results, the NYSDEC and USEPA agreed that no further action was warranted regarding the tar-like substance. Sample locations are shown on Figure 5 and the results of the investigation are presented in Appendix A, Table A-9. The results of the investigation are documented in the Investigation Report (Versar 2002).

## **5.6 Summary of Site Contamination**

The presence of contamination at site SS-026 was evaluated in the SI through soil and groundwater sampling events conducted in 1994, 1999, and 2001. Regulatory criteria used in the assessment included:

### Soil

- TAGM 4046 Soil Cleanup Guidelines (NYSDEC 1994)
- USEPA Dioxin Toxic Equivalency Guidelines (USEPA 1989a)

### Groundwater

- NY State Ambient Water Quality Criteria (NYSDEC 1998)
- Safe Drinking Water Act (40 CFR 141 and 143)
- USEPA Region 2 Guidance for Explosive Compounds in Drinking Water

Results are discussed by contaminant type below.

Dioxins and furans were analyzed in soil samples to assess the potential impact of past defoliation at the EOD Range. These compounds were detected in site soils, but at concentrations well below USEPA's recommended action levels (USEPA 1989a) (Appendix A, Table A-5).

Because chemical warfare training kits were detected during range clearing, soil samples collected at the range were analyzed for arsenic, chloroform, and thiodiglycol (chemical warfare agent indicator parameters). Only one chemical (arsenic) was detected in one of the samples (Appendix A, Table A-4); its concentration fell well below NYSDEC cleanup guidelines. To assess the presence of tear gas and Mace, site soils were analyzed for chlorobenzylidenemalonitrile and 2-chloroacetophenone. These compounds were not detected.

Volatile Organic Compound (VOC) detections in soil and groundwater were infrequent and at low concentrations that did not exceed TBC or ARAR values.

Semivolatile Organic Compounds (SVOCs) detected in the 1994 samples were at concentrations that did not exceed TBC or ARAR values (Appendix A, Tables A-1 and A-2). 1999 soils sample SS-026-SF-1 contained 12 PAHs at concentrations exceeding their respective TBC values due to a tar-like substance present in surface soils at the location of test trench EOD-TP-11 (Appendix A, Table A-6). The tar-like substance and surrounding soils were removed in the 2001 investigatory excavation (see Section 5.5).

No PCBs were detected in soil or groundwater. The only site pesticide detections were 4,4'-DDT and its metabolite 4,4'-DDE in three soil samples at concentrations well below their respective TBC values (Appendix A, Tables A-1 and A-3).

RDX was the only explosive compound detected both in soil and groundwater (Appendix A, Tables A-1, A-2, and A-7); its presence is due to past ordnance disposal at the EOD Range. RDX was detected in a soil sample from the former bermed ordnance disposal area and in two groundwater monitoring wells downgradient from this area (MW-26-003 and MW-26-004) at concentrations slightly exceeding the USEPA's Drinking Water Health Advisory value.

Four metals – antimony, cadmium, chromium, and silver – were detected at concentrations exceeding TBC values in the 1994 soil samples collected in the bermed area (Appendix A, Table A-1). Antimony and silver were not detected in any 1994 downgradient groundwater samples and chromium detections were comparable in upgradient and downgradient groundwater samples (Appendix A, Table A-2). Chromium and cadmium were detected below groundwater ARARs. The only analyte detected at concentrations exceeding ARARs in the 1994 downgradient groundwater samples was iron; this chemical was also detected at concentrations exceeding ARARs in the upgradient groundwater samples. Therefore, the site did not appear to be contributing metals contamination to groundwater.

Three metals – copper, selenium, and zinc – were detected at concentrations exceeding TBC values in the 1999 soil samples collected in the “satellite fill area” (Appendix A, Table A-6). These soil samples were collected downgradient of all SS-026 monitoring wells. Two groundwater seep samples collected downslope from these soil samples had iron, manganese, lead, selenium, and



thallium detections at concentrations exceeding their respective groundwater ARARs (no other chemicals were detected in the seep samples) (Appendix A, Table A-8). The concentrations of iron and selenium in the groundwater sample from MW-26-005 also exceeded their respective groundwater ARARs (Appendix A, Table A-7). The 1999 analytical results indicate that the site may be contributing selenium to groundwater; however, selenium was not detected in any of the 1994 soil or groundwater samples (Appendix A, Table A-1).

## **6.0 CURRENT AND POTENTIAL FUTURE SITE AND RESOURCE USES**

PARC is responsible for maintaining base property, marketing and controlling base reuse, leasing and managing property, and developing base facilities, as necessary, to promote advantageous reuse. According to land use plans (PARC 1995), the identified use of SS-026 and its surrounding area will be industrial or public recreation. The base land use plans developed by PARC were incorporated into the Air Force's Environmental Impact Statement (Tetra Tech 1995). Currently, groundwater at the base is not being utilized as a resource.

The minor contamination remaining at site SS-026 does not pose a threat to human health or the environment given the expected reuse or any other reuse. Thus, this Record of Decision does not specify any restriction on reuse at the site.

## 7.0 SITE RISKS

A four-step process is utilized for assessing site-related human health risks for a reasonable maximum exposure scenario: *Hazard Identification* – identifies the contaminants of concern at the site based on several factors such as toxicity, frequency of occurrence, and concentration. *Exposure Assessment* – estimates the magnitude of actual and/or potential human exposures, the frequency and duration of these exposures, and the pathways (e.g., ingesting contaminated well water) by which humans are potentially exposed. *Toxicity Assessment* – determines the types of adverse health effects associated with chemical exposures, and the relationship between magnitude of exposure (dose) and severity of adverse effects (response). *Risk Characterization* – summarizes and combines outputs of the exposure and toxicity assessments to provide a quantitative assessment of site-related risks.

The human health risk assessment (HRA) follows federal guidelines (USEPA) to estimate the potential carcinogenic (i.e., cancer-causing) and adverse non-carcinogenic health effects due to potential exposure to site contaminants of concern from assumed exposure scenarios and pathways. These guidelines consider an excess upper bound lifetime cancer risk to an individual to be acceptable if it is calculated to be less than one-in-one million ( $10^{-6}$ ). Risks in the range of one-in-ten thousand ( $10^{-4}$ ) to one-in-one million are evaluated on a case-by-case basis. The guidance also specifies a maximum health hazard index (which reflects non-carcinogenic effects for a human receptor) less than or equal to 1. The hazard index is a representation of risk, based on a quotient or ratio of chronic daily intake to a reference (safe) dose. A hazard index greater than 1 indicates a potential for adverse non-carcinogenic health effects.

An HRA was performed during the SI (URS 2000) that assessed human health risks associated with exposure to site soils and/or groundwater using two exposure scenarios. These were:

- 1) Current land use conditions, under which adult and teenage trespassers are exposed to surface soil and groundwater at leachate seeps.
- 2) Hypothetical future land use conditions, under which adult and child residents and construction and industrial workers are exposed to site soils and groundwater.

A summary of all calculated cancer risk values and non-cancer hazard indices for various human pathways calculated in the SI is presented in Table 1.

The calculated non-cancer hazard indices for all potential receptor populations were below USEPA's target threshold hazard index of 1 for both current and future land use scenarios, indicating that the site does not pose an unacceptable non-carcinogenic health risk. The calculated cancer risks for the trespasser and construction exposure scenarios fell within range of cancer risks ( $10^{-4}$  to  $10^{-6}$ ) that can be considered acceptable by USEPA on a case-by-case basis. The calculated cancer risk for the residential scenario was  $2 \times 10^{-4}$ , at the upper bound of USEPA's range. The calculated excess cancer risk posed to potential future residents resulted from potential exposure to high levels of PAHs in soil and arsenic in groundwater. Although the observed concentrations of arsenic in groundwater significantly contributed to the excess cancer risk ( $8 \times 10^{-5}$ ) for the groundwater pathway, the highest concentration (4.9  $\mu\text{g/L}$ ) fell below the USEPA Maximum Contaminant Level of 10  $\mu\text{g/L}$ . Subsequent to the SI, PAH- contaminated soil was excavated and removed from the site during an investigation of tar-like material. This excavation and removal has resulted in the elimination of the remaining principal threat waste at the site and human health risks resulting from potential exposure to the site soils was thereby reduced to acceptable levels.

No quantitative assessment of potential risk posed to ecological communities was performed during the SI. However, there appears to be little potential for site contaminants to adversely impact aquatic communities of the nearby Salmon River. The groundwater seeps located downgradient from SS-026 and 250 feet upgradient from Salmon River (see Figure 4) were conservatively assumed to be representative of potential site groundwater contaminant loading to the river. Seep sample results were compared with surface water criteria to determine potential impact from the three contaminants of concern (arsenic, selenium, and thallium). Note that no organic compounds were detected in the seep samples. The maximum selenium concentration exceeded the New York State Class C (T) and USEPA Freshwater Chronic criteria by a factor of 3 (no other exceedances of criteria occurred); however, it was determined that the actual impact on the river would be minimal due to the dilution capacity of the river and the dilution and adsorption that would occur in the 250-foot distance between the seeps and the river. Therefore, there appears to be little potential for significant contaminant loading from site SS-026 to the Salmon River.

**TABLE 1**

**CANCER RISKS AND HAZARD INDICES FOR MULTIPLE HUMAN PATHWAYS**

**2000 SITE INVESTIGATION REPORT**

EXPOSURE PATHWAY	CURRENT USE				FUTURE USE					
	CANCER RISK		HAZARD INDEX		CANCER RISK			HAZARD INDEX		
			CHRONIC	SUBCHRONIC				CHRONIC	SUBCHRONIC	
	Adult Trespassers	Teenage Trespassers	Adult Trespassers	Teenage Trespassers	Adult Residents	Child Resident	Construction Workers	Adult Residents	Child Resident	Construction Workers
Dermal Contact with Soil	$3 \times 10^{-5}$	$8 \times 10^{-6}$	$2 \times 10^{-3}$	$8 \times 10^{-4}$	$6 \times 10^{-5}$	$3 \times 10^{-5}$	$2 \times 10^{-5}$	$3 \times 10^{-3}$	$3 \times 10^{-3}$	$1 \times 10^{-4}$
Ingestion of Soil	$3 \times 10^{-6}$	$8 \times 10^{-7}$	$7 \times 10^{-4}$	$7 \times 10^{-4}$	$6 \times 10^{-6}$	$1 \times 10^{-5}$	$5 \times 10^{-8}$	$3 \times 10^{-3}$	$3 \times 10^{-2}$	$2 \times 10^{-3}$
Inhalation of Fugitive Dust	$7 \times 10^{-12}$	$2 \times 10^{-12}$	$3 \times 10^{-6}$	$4 \times 10^{-6}$	-	-	$2 \times 10^{-12}$	-	-	$2 \times 10^{-5}$
Ingestion of Groundwater	-	-	-	-	$8 \times 10^{-5}$	-	-	$7 \times 10^{-1}$	-	-
Dermal Contact with Groundwater	-	-	-	-	$1 \times 10^{-7}$	-	-	$1 \times 10^{-3}$	-	-
Inhalation of Chemicals in Vapors While Showering	-	-	-	-	NV	-	-	NV	-	-
Dermal Contact with Groundwater Seeps	$5 \times 10^{-7}$	$1 \times 10^{-7}$	$2 \times 10^{-3}$	$2 \times 10^{-3}$	-	-	-	-	-	-
<b>TOTAL EXPOSURE CANCER RISK</b>	<b><math>4 \times 10^{-5}</math></b>	<b><math>9 \times 10^{-6}</math></b>			<b><math>2 \times 10^{-4}</math></b>		<b><math>2 \times 10^{-5}</math></b>	<b>-</b>		<b>-</b>
<b>TOTAL EXPOSURE HAZARD INDEX</b>	<b>-</b>		<b><math>4 \times 10^{-3}</math></b>	<b><math>4 \times 10^{-3}</math></b>	<b>-</b>		<b>-</b>	<b><math>8 \times 10^{-1}</math></b>		<b><math>2 \times 10^{-3}</math></b>

## **8.0 DESCRIPTION OF SELECTED REMEDY**

Removal of drummed waste in 1997 and removal of PAH-contaminated soil in 2001 have resulted in the elimination of the principal threat wastes at the site. In addition, range clearing conducted in 1997-1998 has removed any of the remaining ordnance at the site. As a result, no other alternatives were evaluated to reduce contaminant levels at the site. No Further Action is the single and preferred alternative. This alternative includes the following element:

- No further action will be undertaken at site SS-026.

No restriction on land use will be imposed through institutional controls for site SS-026. However, notification of the prior land use as an EOD range will be included in the site property transfer documents. Transfer records shall detail past ammunition and explosive contamination information. This information will also be entered in the permanent land records of the civil jurisdiction in which the property is located. A five-year review will not be required for this remedy according to Section 121(c) of CERCLA because no hazardous substances, pollutants, or contaminants are remaining at the site at levels that would not allow for unlimited use and unrestricted exposure.

## **9.0 DOCUMENTATION OF SIGNIFICANT CHANGES**

There are no significant changes between the preferred alternative presented in the Proposed Plan for site SS-026 and the selected remedy presented in this Record of Decision.

## **GLOSSARY**

*Administrative Record:* A file established and maintained in compliance with Section 113(K) of CERCLA, consisting of information upon which the lead agency bases its final decisions on the selection of remedial method(s) for a Superfund site. The Administrative Record is available to the public.

*AFB:* Air Force Base.

*AFCEE:* Air Force Center for Environmental Excellence.

*Alternative:* Technology or action used to address contaminated media at a site.

*Applicable or Relevant and Appropriate Requirements (ARARs):* ARARs include any state or federal statute or regulation that pertains to protection of public health and the environment in addressing certain site conditions or using a particular remedial technology at a Superfund site. A state law to preserve wetland areas is an example of an ARAR. USEPA must consider whether a remedial alternative meets ARARs as part of the process for selecting a remedial alternative for a Superfund site.

*Aquifer:* A water-bearing formation or group of formations.

*BCT:* BRAC cleanup team.

*BRAC:* Base Realignment and Closure (program).

*Carcinogenic:* Chemicals, which when exposure occurs at a particular level, may produce cancer.

*Comprehensive Environmental Response, Compensation and Liability Act (CERCLA):* A federal law passed in 1980 and modified in 1986 by the Superfund Amendments and Reauthorization Act (SARA). The act requires federal agencies to investigate and remediate abandoned or uncontrolled hazardous waste sites.

*EOD:* Explosive Ordnance Disposal.

*Groundwater:* Water found beneath the earth's surface that fills pores within materials such as sand, soil, gravel, and cracks in bedrock, and often serves as a source of drinking water if found in an adequate quantity.

*HFA:* Human Factors Applications, Inc.

*HRA:* Health risk assessment.

*Installation Restoration Program (IRP):* The U.S. Air Force subcomponent of the Defense Environment Restoration Program (DERP) that specifically deals with investigating and remediating sites associated with suspected releases of toxic and hazardous materials from past activities. The DERP was established to cleanup hazardous waste disposal and spill sites at Department of Defense facilities nationwide.



## **GLOSSARY (Con't)**

*Monitoring:* Ongoing collection of information about the environment that helps gauge the effectiveness of a cleanup action. Information gathering may include groundwater well sampling, surface water sampling, soil sampling, air sampling, and physical inspections.

*National Oil and Hazardous Substances Pollution Contingency Plan (NCP):* The NCP provides the organization, structure and procedures for preparing for and responding to discharges of oil and releases of hazardous substances, pollutants, and contaminants. The NCP is required under CERCLA and the Clean Water Act, and USEPA has been delegated the responsibility for preparing and implementing the NCP. The NCP is applicable to response actions taken pursuant to the authorities under CERCLA and the Clean Water Act.

*National Priorities List:* USEPA's list of the most serious uncontrolled or abandoned hazardous waste sites identified for possible long-term remedial action under the Superfund program.

*New York State Registry of Inactive Hazardous Waste Sites:* The state's compilation of all known hazardous waste sites, comprising nine volumes with site descriptions and locations. (Copies available for review in NYSDEC offices).

*Noncarcinogenic:* Chemicals that may produce adverse health effects that are not related to cancer.

*NYSDEC:* The New York State Department of Environmental Conservation.

*NYSDOH:* The New York State Department of Health

*Operable Unit (OU):* A separate and distinct remedial project that is part of a large, complex hazardous waste site. Each OU has its own ROD, RI/FS, design and construction.

*PA:* Preliminary assessment.

*PAH:* Polycyclic aromatic hydrocarbon.

*PARC:* Plattsburgh Airbase Redevelopment Corporation.

*PID:* Photoionization detector.

*Proposed Plan:* A public document that solicits public input on a recommended remedial alternative to be used at a National Priorities List (NPL) site. The Proposed Plan is based on information and technical analysis generated during the RI/FS. The recommended remedial action could be modified or changed based on public comments and community concerns.

*RAB:* Restoration Advisory Board.

*Range Clearing:* The process of locating and removing potential unexploded ordnance from an area where ordnance was used or disposed of in the past.

## **GLOSSARY (Con't)**

*Record of Decision (ROD):* A public document that explains the remedial alternative to be used at a National Priorities List (NPL) site. The ROD is based on information and technical analysis generated during the Remedial Investigation, and on consideration of the public comments and community concerns received on the Proposed Plan. The ROD includes a Responsiveness Summary of public comments.

*RSCOs: Recommended Soil Cleanup Objectives.* These are contaminant specific concentrations listed in NYSDEC guidance used to evaluate whether or not soil contamination detected at a site needs to be addressed by remedial action.

*Remedial Action:* An action that stops or substantially reduces a release or threat of a release of hazardous substances.

*Remedial Alternatives:* Options evaluated to address the source and/or migration of contaminants to meet health-based or ecology-based remediation goals.

*Remedial Investigation (RI):* The Remedial Investigation determines the nature and extent and composition of contamination at a hazardous waste site, and is used to assess the types of remedial options that are developed in the Feasibility Study.

*SARA:* The Superfund Amendments and Reauthorization Act of 1986 amended the 1980 CERCLA environmental statutes. The amendments re-authorized the federal Superfund which had expired in 1985 and established the preference for remedies that permanently reduces toxicity, volume or mobility of hazardous constituents.

*Semivolatile Organic Compounds (SVOCs):* Organic constituents which are generally insoluble in water and are not readily transported in groundwater.

*Site Inspection (SI):* An investigation that determines the nature and composition of contamination at a hazardous waste site. Not as in-depth as a remedial investigation. Similar to a Site Investigation.

*Solvents:* Organic liquids used to dissolve grease and other oil-based materials. Many solvents are toxic at high concentrations.

*Source:* Area at a hazardous waste site from which contamination originates.

*SVE:* Soil vapor extraction. A technology in which a vacuum is applied to a porous contaminated media to strip volatile chemicals adhering to the media as air flows through it.

*Superfund:* The trust fund, created by CERCLA out of special taxes, used to investigate and clean up abandoned or uncontrolled hazardous waste sites. Out of this fund USEPA either: (1) pays for site remediation when parties responsible for the contamination cannot be located or are unwilling or unable to perform the work or (2) takes legal action to force parties responsible for site contamination to cleanup the site or pay back the federal government for the cost of the remediation. Federal facilities are not eligible for Superfund monies.

## **GLOSSARY (Con't)**

*TAGM:* Technical and Administrative Guidance Memorandum.

*To Be Considered (TBC):* Federal and state policies, advisories, and other non-promulgated health and environment criteria, including numerical guidance values, that are not legally binding. TBCs are used for the protection of public health and the environment if no specific ARARs for a chemical or other site conditions exist, or if ARARs are not deemed sufficiently protective.

*Unsaturated Zone:* The volume located between the ground surface and the water table. Also known as the vadose zone.

*USEPA:* United States Environmental Protection Agency.

*UXO:* Unexploded ordnance.

*Volatile Organic Compounds (VOCs):* Organic constituents which tend to volatilize or to change from a liquid to a gas form when exposed to the atmosphere. Many VOCs are readily transported in groundwater.

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# **APPENDIX A**

## **ANALYTICAL DATA**

TABLE A-1

**EOD RANGE (SS-026)**  
**SUMMARY OF ANALYTES DETECTED IN 1994 SOIL SAMPLES**

Analyte	Class	TBC VALUE	Background Samples			Disposal Area Samples				Location of Onsite Maximum Detection
			Detection Frequency	Min. Detected Concentration	Max. Detected Concentration	Detection Frequency	Frequency of TBC Exceedance	Min. Detected Concentration	Max. Detected Concentration	
Methylene Chloride	VOC	100	0 / 2	—	—	2 / 8	0 / 8	1	1	SB-26-02/SB-26-03
Acetone	VOC	200	2 / 2	12	13	5 / 8	0 / 8	3	34	MW-26-003
Toluene	VOC	1,500	0 / 2	—	—	1 / 8	0 / 8	3	3	SB-26-02
Diethylphthalate	SVOC	7,100	1 / 2	—	780	0 / 8	0 / 8	—	—	—
4,4'-DDT	PEST	2,100	0 / 2	—	—	1 / 8	0 / 8	1.4	1.4	SB-26-03
RDX	EXPLOSIVE	—	0 / 2	—	—	1 / 8	0 / 8	1.5	1.5	SB-26-01
Aluminum (mg/kg)	METAL	8510 (SB)	2 / 2	3050	4780	8 / 8	0 / 8	1150	2770	SB-26-03
Antimony (mg/kg)	METAL	12.6 (SB)	0 / 2	—	—	3 / 8	2 / 8	7.6	42.9	SB-26-02
Arsenic (mg/kg)	METAL	7.5 **	2 / 2	1	1.2	5 / 8	0 / 8	0.41	0.95	SB-26-02
Barium (mg/kg)	METAL	300 **	2 / 2	13.6	17	8 / 8	0 / 8	4.8	21.4	SB-26-02
Beryllium (mg/kg)	METAL	0.74 (SB)	2 / 2	0.16	0.21	6 / 8	0 / 8	0.06	0.14	MW-26-003
Cadmium (mg/kg)	METAL	1.3 (SB)	2 / 2	1.1	1.3	7 / 8	4 / 8	0.67	5.3	SB-26-02
Calcium (mg/kg)	METAL	30200 (SB)	2 / 2	815	841	8 / 8	0 / 8	310	885	SB-26-02
Chromium (mg/kg)	METAL	19.5 (SB)	2 / 2	4.2	5.3	7 / 8	1 / 8	1.9	31.1	SB-26-02
Cobalt (mg/kg)	METAL	30 **	2 / 2	3.1	3.4	7 / 8	0 / 8	1.6	15.1	SB-26-02
Copper (mg/kg)	METAL	44.1 (SB)	2 / 2	2	4.4	8 / 8	0 / 8	1.4	5.9	SB-26-01
Iron (mg/kg)	METAL	36700 (SB)	2 / 2	5270	5560	8 / 8	0 / 8	2550	5990	SB-26-02
Lead (mg/kg)	METAL	79.4 (SB)	2 / 2	1.2	1.3	8 / 8	0 / 8	0.5	11	SB-26-03
Magnesium (mg/kg)	METAL	3340 (SB)	2 / 2	809	830	8 / 8	0 / 8	184	812	SB-26-02
Manganese (mg/kg)	METAL	474 (SB)	2 / 2	24.7	41	8 / 8	0 / 8	28.8	103	SB-26-02
Nickel (mg/kg)	METAL	13 **	2 / 2	4.7	5.1	5 / 8	0 / 8	2.8	10.6	SB-26-01
Potassium (mg/kg)	METAL	929 (SB)	2 / 2	370	395	8 / 8	0 / 8	206	480	SB-26-02
Silver (mg/kg)	METAL	ND (SB)	0 / 2	—	—	1 / 8	1 / 8	1.3	1.3	SB-26-01
Sodium (mg/kg)	METAL	520 (SB)	1 / 2	—	141	7 / 8	0 / 8	89.5	412	SB-26-02
Vanadium (mg/kg)	METAL	150 **	2 / 2	9.5	11.4	8 / 8	0 / 8	3.3	8.4	SB-26-03/SB-26-03

Note: Concentrations in µg/kg unless otherwise noted.

- Concentration exceeds TBC value

**TBC (To Be Considered) Value Sources:**

(SB) = Site Background (95% Upper Tolerance Limit Value from *Background Surface Soil & Groundwater Survey for the Plattsburgh Air Force Base*, URS 1996).

\*\* = NYSDEC recommended soil cleanup objective value from *NYSDEC TAGM HWR-94-4046, Determination of Soil Cleanup Objectives and Cleanup Levels*, January 1994.

**TABLE A-2**  
**EOD RANGE (SS-026)**  
**SUMMARY OF ANALYTES DETECTED IN 1994 GROUNDWATER SAMPLES**

Analyte	Class	ARAR VALUE	Upgradient Samples				Onsite Samples				Location of Onsite Maximum Detection
			Detection Frequency	Frequency of ARAR Exceedance	Min. Detected Concentration	Max. Detected Concentration	Detection Frequency	Frequency of ARAR Exceedance	Min. Detected Concentration	Max. Detected Concentration	
Acetone	VOC	50	0 / 2	0 / 2	—	—	1 / 3	0 / 3	15	15	MW-26-002
bis(2-Ethylhexyl)phthalate	SVOC	6	0 / 2	0 / 2	—	—	3 / 3	0 / 3	2	4	MW-26-002
RDX	EXPLOSIVE	2* (TBC)	0 / 2	0 / 2	—	—	1 / 3	0 / 3	5.6	5.6	MW-26-003
Aluminum (Total)	METAL	—	2 / 2	2 / 2	234	3940	3 / 3	3 / 3	703	6050	MW-26-003
Antimony (Total)	METAL	3	1 / 2	1 / 2	29.3	29.3	0 / 3	0 / 3	—	—	—
Arsenic (Total)	METAL	10	1 / 2	0 / 2	3	3	3 / 3	0 / 3	2.2	4.9	MW-26-003
Barium (Total)	METAL	1,000	2 / 2	0 / 2	7.9	29.2	3 / 3	0 / 3	7.7	46.2	MW-26-003
Beryllium (Total)	METAL	3	1 / 2	0 / 2	0.46	0.46	3 / 3	0 / 3	0.29	0.74	MW-26-003
Calcium (Total)	METAL	—	2 / 2	0 / 2	8190	9310	3 / 3	0 / 3	5230	16300	MW-26-002
Chromium (Total)	METAL	50	1 / 2	0 / 2	5.7	5.7	1 / 3	0 / 3	11.5	11.5	MW-26-003
Cobalt (Total)	METAL	—	2 / 2	0 / 2	5.6	6.2	1 / 3	0 / 3	9.3	9.3	MW-26-003
Copper (Total)	METAL	200	1 / 2	0 / 2	5.4	5.4	2 / 3	0 / 3	4.3	13.3	MW-26-003
Iron (Total)	METAL	300	2 / 2	2 / 2	314	6140	3 / 3	3 / 3	1860	12600	MW-26-003
Lead (Total)	METAL	15	2 / 2	0 / 2	1.2	4.3	3 / 3	0 / 3	2.2	5.6	MW-26-003
Magnesium (Total)	METAL	35,000	2 / 2	0 / 2	1850	3040	3 / 3	0 / 3	783	3700	MW-26-002
Manganese (Total)	METAL	300	2 / 2	0 / 2	10.7	62.9	3 / 3	0 / 3	30.3	104	MW-26-003
Nickel (Total)	METAL	100	1 / 2	0 / 2	12	12	1 / 3	0 / 3	21	21	MW-26-003
Potassium (Total)	METAL	—	2 / 2	0 / 2	1840	2310	3 / 3	0 / 3	1620	3020	MW-26-003
Sodium (Total)	METAL	20,000	2 / 2	0 / 2	1410	4870	3 / 3	0 / 3	1410	1920	MW-26-003
Vanadium (Total)	METAL	—	1 / 2	0 / 2	8.6	8.6	2 / 3	0 / 3	3.8	27.7	MW-26-003
Zinc (Total)	METAL	2,000	2 / 2	0 / 2	52	182	3 / 3	1 / 3	221	315	MW-26-004
Aluminum (Dissolved)	METAL	—	2 / 2	1 / 2	38	105	2 / 3	1 / 3	35.8	280	MW-26-002
Arsenic (Dissolved)	METAL	10	0 / 2	0 / 2	—	—	1 / 3	0 / 3	3.3	3.3	MW-26-002
Barium (Dissolved)	METAL	1,000	2 / 2	0 / 2	34.6	105	3 / 3	0 / 3	29.1	49.2	MW-26-004
Cadmium (Dissolved)	METAL	5	0 / 2	0 / 2	—	—	1 / 3	0 / 3	4.1	4.1	MW-26-004
Calcium (Dissolved)	METAL	—	2 / 2	0 / 2	7730	9410	3 / 3	0 / 3	5040	19100	MW-26-004
Cobalt (Dissolved)	METAL	—	1 / 2	0 / 2	5.1	5.1	0 / 3	0 / 3	—	—	—
Iron (Dissolved)	METAL	300	2 / 2	0 / 2	25.9	73.6	3 / 3	0 / 3	13.7	61.2	MW-26-002
Lead (Dissolved)	METAL	15	1 / 2	0 / 2	1.3	1.3	3 / 3	0 / 3	1.1	1.4	MW-26-004
Magnesium (Dissolved)	METAL	35,000	2 / 2	0 / 2	1690	1900	3 / 3	0 / 3	421	3620	MW-26-002
Manganese (Dissolved)	METAL	300	2 / 2	0 / 2	8.3	9.8	3 / 3	0 / 3	8.9	107	MW-26-002
Potassium (Dissolved)	METAL	—	2 / 2	0 / 2	1300	2290	3 / 3	0 / 3	1490	2070	MW-26-004
Sodium (Dissolved)	METAL	20,000	2 / 2	0 / 2	1830	5320	3 / 3	0 / 3	1170	1580	MW-26-003
Thallium (Dissolved)	METAL	2	1 / 2	0 / 2	1.3	1.3	0 / 3	0 / 3	—	—	—
Zinc (Dissolved)	METAL	2,000	2 / 2	0 / 2	29.1	78.7	3 / 3	0 / 3	24.1	37.9	MW-26-004

Notes:

— - Concentration exceeds ARAR or TBC value

\* - USEPA Region 2 TBC Guidance for Explosive Compounds in Drinking Water.

1) Concentrations in µg/l.

2) ARAR values from NYSDEC Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, TOGS 1.1.1 (June 1998) and USEPA Drinking Water Standards 40 CFR 141-143.



**TABLE A-3**  
**EOD RANGE (SS-026)**  
**SUMMARY OF ANALYTES DETECTED IN**  
**1997 SOIL SAMPLES**

Location ID			EOD BERM 1	EOD PIT 1	EOD PIT 2
Sample ID			EODBERM1	EODPIT1	EODPIT2
Matrix			Soil	Soil	Soil
Depth Interval (ft)			-	-	-
Date Sampled			12/11/97	12/11/97	12/11/97
Parameter	Units	Criteria*			
<b>Volatile Organic Compounds</b>					
Acetone	UG/KG	200	42	45	46
Methylene chloride	UG/KG	100	4	6	5
<b>Pesticide Organic Compounds</b>					
4,4'-DDE	UG/KG	2100	1.0		
4,4'-DDT	UG/KG	2100	3.0		0.44
<b>Total Metals</b>					
Aluminum	MG/KG	8510 (SB)	3,830	1,800	3,340
Arsenic	MG/KG	7.5	0.77		1.3
Barium	MG/KG	300	13.7	19.7	21.7
Calcium	MG/KG	30200 (SB)	311	1,220	1,020
Chromium	MG/KG	19.5 (SB)	2.4	3.8	5.7
Cobalt	MG/KG	30	1.1	1.6	2.4
Copper	MG/KG	44.1 (SB)	1.9	0.78	2.3
Iron	MG/KG	36700 (SB)	3,560	4,800	12,300
Lead	MG/KG	79.4 (SB)	9.8	3	3.6
Magnesium	MG/KG	3340 (SB)	335	439	906
Manganese	MG/KG	474 (SB)	56.5	79.6	74.9
Nickel	MG/KG	13	2.7	2.9	5.5
Potassium	MG/KG	929 (SB)	118	136	322
Selenium	MG/KG	2	0.85		1.3
Sodium	MG/KG	520 (SB)	59.5	45.4	66.7
Vanadium	MG/KG	150	4.5	5.3	11.3

\*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 January 24, 1994 (Revised).



Concentration Exceeds Criteria


SB - Site Background

Only Detected Results Reported.

**TABLE A-3**  
**EOD RANGE (SS-026)**  
**SUMMARY OF ANALYTES DETECTED IN**  
**1997 SOIL SAMPLES**

Location ID			EOD BERM 1	EOD PIT 1	EOD PIT 2
Sample ID			EODBERM1	EODPIT1	EODPIT2
Matrix			Soil	Soil	Soil
Depth Interval (ft)			-	-	-
Date Sampled			12/11/97	12/11/97	12/11/97
Parameter	Units	Criteria*			
Total Metals					
Zinc	MG/KG	63.4 (SB)	29	14.8	25.5

\*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 January 24, 1994 (Revised).

 Concentration Exceeds Criteria  
 SB - Site Background

Only Detected Results Reported.

**TABLE A-4**  
**EOD RANGE (SS-026)**  
**SUMMARY OF ANALYTES DETECTED IN**  
**1999 SOIL SAMPLES**

Location ID			SS-026-CAS-1	SS-026-CAS-2	SS-026-CAS-3	SS-026-CAS-4	SS-026-CAS-5
Sample ID			SS-026-CAS-1	SS-026-CAS-2	SS-026-CAS-3	SS-026-CAS-4	SS-026-CAS-5
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			0.0-2.0	2.0-4.0	5.0-7.0	8.0-9.0	0.0-1.0
Date Sampled			09/01/99	09/01/99	09/01/99	09/01/99	09/01/99
Parameter	Units	Criteria*					
Total Metals							
Arsenic	MG/KG	7.5	1.4				

\*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 January 24, 1994 (Revised).



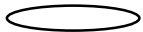
Concentration Exceeds Criteria

Only Detected Results Reported.

**TABLE A-4**  
**EOD RANGE (SS-026)**  
**SUMMARY OF ANALYTES DETECTED IN**  
**1999 SOIL SAMPLES**

<b>Location ID</b>			SS-026-CAS-6
<b>Sample ID</b>			SS-026-CAS-6
<b>Matrix</b>			Soil
<b>Depth Interval (ft)</b>			0.0-1.0
<b>Date Sampled</b>			09/01/99
<b>Parameter</b>	<b>Units</b>	<b>Criteria*</b>	
<b>Total Metals</b>			
Arsenic	MG/KG	7.5	

\*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 January 24, 1994 (Revised).



Concentration Exceeds Criteria

Only Detected Results Reported.

**TABLE A-5**  
**EOD RANGE (SS-026)**  
**SUMMARY OF ANALYTES DETECTED IN**  
**1999 SOIL BORING SAMPLES**

Location ID		SB-26-01	SB-26-01	SB-26-02	SB-26-02	SB-26-03
Sample ID		SB-26-04-01	SB-26-04-02	SB-26-06-01	SB-26-06-02	SB-26-05-01
Matrix		Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)		0.0-2.0	2.0-4.0	0.0-2.0	2.0-4.0	0.0-2.0
Date Sampled		09/01/99	09/01/99	09/01/99	09/01/99	09/01/99
Parameter	Units					
<b>Dioxins &amp; Furans</b>						
1,2,3,4,6,7,8-HpCDD	NG/KG	1.8	1.9	2.70	7.10	3.8
1,2,3,4,6,7,8-HpCDF	NG/KG					
OCDD	NG/KG	13.00	12.00	17.00	72.00	37.00
OCDF	NG/KG				6.50	
Total HpCDD	NG/KG	3.30	3.50	5.70	16.00	8.2
Total HpCDF	NG/KG	0.97				0.98
Total HxCDD	NG/KG				2.50	
Total HxCDF	NG/KG	0.60			2.60	1.40
Dioxin Toxicity Equivalence	NG/KG	0.0310	0.0310	0.0439	0.1495	0.075

Soils containing dioxins and furans with a Dioxin Toxicity Equivalence of greater than 1 ug/kg are considered a significant risk according to USEPA guidelines.

Only Detected Results Reported.

**TABLE A-5**  
**EOD RANGE (SS-026)**  
**SUMMARY OF ANALYTES DETECTED IN**  
**1999 SOIL BORING SAMPLES**

Location ID		SB-26-03	SB-26-03
Sample ID		SB-26-05-01DUP	SB-26-05-02
Matrix		Soil	Soil
Depth Interval (ft)		0.0-2.0	2.0-4.0
Date Sampled		09/01/99	09/01/99
Parameter	Units	Field Duplicate (1-1)	
<b>Dioxins &amp; Furans</b>			
1,2,3,4,6,7,8-HpCDD	NG/KG	4.20	
1,2,3,4,6,7,8-HpCDF	NG/KG	0.95	
OCDD	NG/KG	32.00	3.90
OCDF	NG/KG	1.80	1.10
Total HpCDD	NG/KG	8.10	0.48
Total HpCDF	NG/KG	2.00	0.70
Total HxCDD	NG/KG		
Total HxCDF	NG/KG		
Dioxin Toxicity Equivalence	NG/KG	0.086	0.005


Soils containing dioxins and furans with a Dioxin Toxicity Equivalence of greater than 1 ug/kg are considered a significant risk according to USEPA guidelines.

Only Detected Results Reported.

**TABLE A-6**  
**EOD RANGE (SS-026) - SATELLITE FILL AREA**  
**SUMMARY OF ANALYTES DETECTED IN**  
**1999 SURFACE SOIL SAMPLES**

Location ID			SS-026-SF-1	SS-026-SF-2	SS-026-SF-4	SS-026-SF-4	SS-026-SF-5
Sample ID			SS-026-SF-1	SS-026-SF-2	SS-026-SF-4	SS-026-SF-4DUP	SS-026-SF-5
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5
Date Sampled			09/20/99	09/20/99	09/15/99	09/15/99	09/15/99
Parameter	Units	Criteria*				Field Duplicate (1-1)	
<b>Volatile Organic Compounds</b>							
Methylene chloride	UG/KG	100			54		
Toluene	UG/KG	1500			17		
<b>Semivolatile Organic Compounds</b>							
2-Methylnaphthalene	UG/KG	36400	12,900				
4-Methylphenol (p-cresol)	UG/KG	900	814				
Acenaphthene	UG/KG	50000	20,600				
Benzo(a)anthracene	UG/KG	224 or MDL	57,700				
Benzo(a)pyrene	UG/KG	61 or MDL	17,900		213		
Benzo(b)fluoranthene	UG/KG	1100	14,700				
Benzo(g,h,i)perylene	UG/KG	50000	15,600				
Benzo(k)fluoranthene	UG/KG	1100	12,400				
bis(2-Ethylhexyl)phthalate	UG/KG	50000		679			
Carbazole	UG/KG	-	19,200				
Chrysene	UG/KG	400	26,100				
Dibenz(a,h)anthracene	UG/KG	14 or MDL	8,840				
Dibenzofuran	UG/KG	6200	13,800				
Di-n-butylphthalate	UG/KG	8100		352			
Fluoranthene	UG/KG	50000	57,500	78			
Fluorene	UG/KG	50000	21,600				
Indeno(1,2,3-cd)pyrene	UG/KG	3200	14,700				
Naphthalene	UG/KG	13000	18,100				
Phenanthrene	UG/KG	50000	72,000				

\*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 January 24, 1994 (Revised).

 Concentration Exceeds Criteria

SB - Site Background


MDL - Method Detection Limit

Only Detected Results Reported.

**TABLE A-6**  
**EOD RANGE (SS-026) - SATELLITE FILL AREA**  
**SUMMARY OF ANALYTES DETECTED IN**  
**1999 SURFACE SOIL SAMPLES**

Location ID			SS-026-SF-1	SS-026-SF-2	SS-026-SF-4	SS-026-SF-4	SS-026-SF-5
Sample ID			SS-026-SF-1	SS-026-SF-2	SS-026-SF-4	SS-026-SF-4DUP	SS-026-SF-5
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5
Date Sampled			09/20/99	09/20/99	09/15/99	09/15/99	09/15/99
Parameter	Units	Criteria*				Field Duplicate (1-1)	
<b>Semivolatile Organic Compounds</b>							
Pyrene	UG/KG	50000	58,600	82			
<b>Total Metals</b>							
Aluminum	MG/KG	8510 (SB)	3,390	3,140	3,090	3,350	2,990
Antimony	MG/KG	12.6 (SB)	2.7	1.4	3.2	2.9	7.2
Barium	MG/KG	300	15.5	15.4	25.3	26.2	22.9
Beryllium	MG/KG	0.74 (SB)	0.21	0.13	0.17	0.17	0.23
Cadmium	MG/KG	1.3 (SB)					0.03
Calcium	MG/KG	30200 (SB)	3,150	2,070	2,430	2,290	5,080
Chromium	MG/KG	19.5 (SB)	6.3	10	4.4	5	5.3
Cobalt	MG/KG	30	1.3	1.2	0.96	1.1	1.3
Copper	MG/KG	44.1 (SB)	5.8	52.8	2.3	2	3.8
Iron	MG/KG	36700 (SB)	11,200	7,970	4,410	4,650	5,260
Lead	MG/KG	79.4 (SB)	16.6	65.3	NA	NA	NA
Magnesium	MG/KG	3340 (SB)	789	424	731	720	1,540
Nickel	MG/KG	13	3.2	2.5	2.6	2.9	2.6
Potassium	MG/KG	929 (SB)	234	152	218	261	333
Selenium	MG/KG	2	7.6	5.7	3.7	4.5	4.5
Vanadium	MG/KG	150	21	11	6.7	7.2	9.1
Zinc	MG/KG	63.4 (SB)	27.3	153	NA	NA	NA

\*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 January 24, 1994 (Revised).

 Concentration Exceeds Criteria

SB - Site Background

MDL - Method Detection Limit

Only Detected Results Reported.



**TABLE A-6**  
**EOD RANGE (SS-026) - SATELLITE FILL AREA**  
**SUMMARY OF ANALYTES DETECTED IN**  
**1999 SURFACE SOIL SAMPLES**

<b>Location ID</b>			<b>SS-026-SF-6</b>
<b>Sample ID</b>			<b>SS-026-SF-6</b>
<b>Matrix</b>			<b>Soil</b>
<b>Depth Interval (ft)</b>			<b>0.0-0.5</b>
<b>Date Sampled</b>			<b>09/15/99</b>
<b>Parameter</b>	<b>Units</b>	<b>Criteria*</b>	
<b>Volatile Organic Compounds</b>			
Methylene chloride	UG/KG	100	
Toluene	UG/KG	1500	
<b>Semivolatile Organic Compounds</b>			
2-Methylnaphthalene	UG/KG	36400	
4-Methylphenol (p-cresol)	UG/KG	900	
Acenaphthene	UG/KG	50000	
Benzo(a)anthracene	UG/KG	224 or MDL	
Benzo(a)pyrene	UG/KG	61 or MDL	
Benzo(b)fluoranthene	UG/KG	1100	
Benzo(g,h,i)perylene	UG/KG	50000	
Benzo(k)fluoranthene	UG/KG	1100	
bis(2-Ethylhexyl)phthalate	UG/KG	50000	
Carbazole	UG/KG	-	
Chrysene	UG/KG	400	
Dibenz(a,h)anthracene	UG/KG	14 or MDL	
Dibenzofuran	UG/KG	6200	
Di-n-butylphthalate	UG/KG	8100	
Fluoranthene	UG/KG	50000	
Fluorene	UG/KG	50000	
Indeno(1,2,3-cd)pyrene	UG/KG	3200	
Naphthalene	UG/KG	13000	
Phenanthrene	UG/KG	50000	

\*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 January 24, 1994 (Revised).



Concentration Exceeds Criteria

SB - Site Background


MDL - Method Detection Limit

Only Detected Results Reported.

**TABLE A-6**  
**EOD RANGE (SS-026) - SATELLITE FILL AREA**  
**SUMMARY OF ANALYTES DETECTED IN**  
**1999 SURFACE SOIL SAMPLES**

<b>Location ID</b>			<b>SS-026-SF-6</b>
<b>Sample ID</b>			<b>SS-026-SF-6</b>
<b>Matrix</b>			<b>Soil</b>
<b>Depth Interval (ft)</b>			<b>0.0-0.5</b>
<b>Date Sampled</b>			<b>09/15/99</b>
<b>Parameter</b>	<b>Units</b>	<b>Criteria*</b>	
<b>Semivolatile Organic Compounds</b>			
Pyrene	UG/KG	50000	
<b>Total Metals</b>			
Aluminum	MG/KG	8510 (SB)	2,180
Antimony	MG/KG	12.6 (SB)	5.1
Barium	MG/KG	300	18.4
Beryllium	MG/KG	0.74 (SB)	
Cadmium	MG/KG	1.3 (SB)	
Calcium	MG/KG	30200 (SB)	5,760
Chromium	MG/KG	19.5 (SB)	5.2
Cobalt	MG/KG	30	0.9
Copper	MG/KG	44.1 (SB)	16.8
Iron	MG/KG	36700 (SB)	4,820
Lead	MG/KG	79.4 (SB)	12.8
Magnesium	MG/KG	3340 (SB)	596
Nickel	MG/KG	13	7
Potassium	MG/KG	929 (SB)	216
Selenium	MG/KG	2	4.7
Vanadium	MG/KG	150	8.3
Zinc	MG/KG	63.4 (SB)	56.1

\*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 January 24, 1994 (Revised).

 Concentration Exceeds Criteria

SB - Site Background

MDL - Method Detection Limit

Only Detected Results Reported.

**TABLE A-7**  
**EOD RANGE (SS-026)**  
**SUMMARY OF ANALYTES DETECTED IN**  
**1999 GROUNDWATER SAMPLES RESULTS**

Location ID			MW-24-001	MW-26-001	MW-26-002	MW-26-003	MW-26-004
Sample ID			MW-24-001	MW-26-001	MW-26-002	MW-26-003	MW-26-004
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			10/06/99	10/06/99	10/06/99	10/06/99	10/06/99
Parameter	Units	Criteria*					
Explosives (Nitroaromatics & Nitroamines)							
RDX	UG/L	2				6.1	5.5

\*Criteria- USEPA Region 2 TBC Guidance Value for Explosive Compounds in Drinking Water.



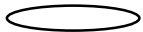
Concentration Exceeds Criteria

Only Detected Results Reported.

**TABLE A-7**  
**EOD RANGE (SS-026)**  
**SUMMARY OF ANALYTES DETECTED IN**  
**1999 GROUNDWATER SAMPLES RESULTS**

Location ID			MW-26-005	MW-26-005
Sample ID			MW-26-005	MW-26-005DUP
Matrix			Groundwater	Groundwater
Depth Interval (ft)			-	-
Date Sampled			10/06/99	10/06/99
Parameter	Units	Criteria*		Field Duplicate (1-1)
Explosives (Nitroaromatics & Nitroamines)				
RDX	UG/L	2		

\*Criteria- USEPA Region 2 TBC Guidance Value for Explosive Compounds in Drinking Water.



Concentration Exceeds Criteria

Only Detected Results Reported.

**TABLE A-7**  
**EOD RANGE (SS-026)**  
**SUMMARY OF ANALYTES DETECTED IN**  
**1999 GROUNDWATER SAMPLES RESULTS**

Location ID			MW-26-005	MW-26-005
Sample ID			MW-26-005	MW-26-005DUP
Matrix			Groundwater	Groundwater
Depth Interval (ft)			-	-
Date Sampled			10/06/99	10/06/99
Parameter	Units	Criteria*		Field Duplicate (1-1)
<b>Total Metals</b>				
Aluminum	UG/L	NS	3,700	3,350
Barium	UG/L	1000	40.7	41.8
Calcium	UG/L	NS	23,200	25,700
Chromium	UG/L	50	7.3	6.6
Copper	UG/L	200	8.8	9.2
Iron	UG/L	300	7,200	6,500
Magnesium	UG/L	35000	5,090	5,060
Manganese	UG/L	300	180	196
Mercury	UG/L	0.7	0.37	0.22
Nickel	UG/L	100	5.2	4.9
Potassium	UG/L	NS	1,570	1,570
Selenium	UG/L	10	12.3	11.8
Sodium	UG/L	20000	1,590	1,600
Vanadium	UG/L	NS	11.9	10.8
Zinc	UG/L	2000	46.9	51

\*Criteria- NYSDEC TOGS (1.1.1) June 1998, Revised April 2000, Class GA; USEPA Drinking Water Standards 40 CFR 141; and Subpart 5-1, Public Water Systems, NYSDOH.



Concentration Exceeds Criteria

Only Detected Results Reported.

**TABLE A-8**  
**EOD RANGE (SS-026) -SATELLITE FILL AREA**  
**SUMMARY OF ANALYTES DETECTED IN**  
**1999 GROUNDWATER SEEP SAMPLES**

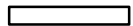
Location ID				LS-026-SF-1	LS-026-SF-1	LS-026-SF-2
Sample ID				LS-026-SF-1	LS-026-SF-1DUP	LS-026-SF-2
Matrix				GW Seep	GW Seep	GW Seep
Depth Interval (ft)				0.0-1.0	0.0-1.0	0.0-1.5
Date Sampled				09/15/99	09/15/99	09/15/99
Parameter	Units	Criteria (1)	Criteria (2)		Field Duplicate (1-1)	
<b>Total Metals</b>						
Aluminum	UG/L	NS	-	8,540	7,950	2,280
Arsenic	UG/L	25	10	7.5	7.3	
Barium	UG/L	1000	-	164	151	34.7
Calcium	UG/L	NS	-	51,600	48,500	28,800
Chromium	UG/L	50	-	12.8	12.0	4.2
Copper	UG/L	200	-	13.8	12.7	8.5
Iron	UG/L	300	-	14,900	13,600	4,470
Lead	UG/L	25	15	24.8	23.2	8.2
Magnesium	UG/L	35000	-	11,800	11,200	7,540
Manganese	UG/L	300	-	2,640	2,420	401
Nickel	UG/L	100	-	8.5	8.3	2.9
Potassium	UG/L	NS	-	2,880	2,690	938
Selenium	UG/L	10	-	11.9	13.8	7.1
Sodium	UG/L	20000	-	6,370	6,070	5,450
Thallium	UG/L	0.5	-	6.6		
Vanadium	UG/L	NS	-	19.0	17.5	6.2
Zinc	UG/L	2000	-	70.3	54.2	34.2

Criteria (1)- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations. June 1998, Revised April 2000, Class GA.

Criteria (2)- USEPA MCL Value



Concentration Exceeds Criteria (1)



Concentration Exceeds Criteria (2)

NS - No standard is available for the subject parameter

Only Detected Results Reported.

TABLE A - 9

**EOD Range (SS-026)**  
**Satellite Fill Area Confirmation Sampling Results**

ANALYTE	NYSDEC Recommended Soil Cleanup Objective (ppm or mg/kg) <sup>1</sup>	MDL (mg/kg)	SAMPLE RESULTS (mg/kg)					
			EOD-1	EOD-2	EOD-3	EOD-3 dil (rerun at 1:1 dilution, MDL doubled)	EOD-4	EOD-4 dil (rerun at 1:1 dilution, MDL doubled)
Acenaphthene	50.0	0.082	ND	ND	0.161 F	ND	ND	ND
Acenaphthylene	41.0	0.082	ND	ND	ND	ND	ND	ND
Anthracene	50.0	0.082	ND	ND	0.268	0.238 F	ND	ND
Benzoic Acid	2.7	0.31	ND	ND	ND	0.953 F	0.454 F	1.02 F
Benzo(a) anthracene	0.224 or MDL	0.082	ND	0.093 F	0.488 F	0.405 F	ND	ND
Benzo(a)pyrene	0.061 or MDL	0.082	ND	0.0937 F	0.46 R	0.34 F	ND R	ND
Benzo(b)fluoranthene	1.1	0.082	ND	0.102 F	0.514 R	0.359F	ND R	ND
Benzo(g,h,i)perylene	50.0	0.082	ND R	ND R	0.174 R	0.227 F	ND R	ND
Benzo(k)fluoranthene	1.1	0.082	ND	ND	0.378 R	0.261 F	ND R	ND
Bis(2-ethylhexyl)phthalate	50.0	0.082	ND	ND	ND	ND	ND	ND
Chrysene	0.4	0.082	ND	0.118 F	0.575 F	0.484 F	ND	ND
Dibenzofuran	6.2	0.082	ND	ND	0.0853 F	ND	ND	ND
Dibenzo(a,h)anthracene	0.014 or MDL	0.082	ND	ND	ND	ND	ND R	ND
Di-n-octylphthalate	50.0	0.082	ND	0.101 F	ND	ND	ND	ND
Fluoranthene	50.0	0.082	ND	0.173 F	1.08	0.919 F	ND	ND
Fluorene	50.0	0.082	ND	ND	0.15 F	ND	ND	ND
Indeno(1,2,3-cd)pyrene	3.2	0.082	ND	ND	0.153 R	0.193 F	ND R	ND
Naphthalene	13.0	0.082	ND	0.0873 F	0.131 F	ND	ND	ND
Phenanthrene	50.0	0.082	ND	ND	0.918	0.745	ND	ND
Pyrene	50.0	0.082	ND	0.151F	1.19 J	0.674 F	ND	ND
Percent Carbon Content <sup>2</sup>	-----	-----	4%	3%	12%	-----	12%	-----

<sup>1</sup> Values taken from NYSDEC TAGM HWR-94-4046 *Determination of Soil Cleanup Objectives and Cleanup Levels*, Appendix A, Table 2, Column 9.

<sup>2</sup> Calculated as 100% - %Ash

F = Result is above the MDL but below the CRDL and is subject to poor precision

MDL = Minimum Detection Level

ND = Not detected above MDL

R = QAPP QA/QC criteria (typically calibration) were not met and result may not be usable

RDL = Reportable Detection Limit

- detected concentration exceeds NYSDEC Recommended  
Soil Cleanup Objective value

**APPENDIX B**

**STATEMENT OF EOD  
RANGE CLEARANCE**



18 JUL 1999

MEMORANDUM FOR Department of the Air Force, Air Force Base  
Conversion Agency, ATTN: AFBCA/DA, Plattsburgh  
(Mr. Michael D. Sorel, P.E.), 426 U.S. Oval  
Suite 2200, Plattsburgh, NY 12903

SUBJECT: Explosive Ordnance Disposal (EOD) Range, Plattsburgh  
Air Force Base (AFB), Plattsburgh, NY

1. References:

a. Contract DACA87-95-D-0027, Task Order 0006, EOD Range and  
Practice 40mm Grenade Range, Plattsburgh Air Force Base, NY.

b. Interim Final Report for Ordnance and Explosive (OE)  
Clearance of the Practice 40mm Grenade Range at Plattsburgh AFB,  
Plattsburgh, NY, 9 March 1998, Human Factors Applications,  
Incorporated.

c. Final Ordnance and Explosives Removal Action Report,  
14 May 1999, Human Factors Applications, Incorporated.

d. Memorandum for Department of the Air Force, Air Force  
Base Conversion Agency, ATTN: AFBCA/DA, Plattsburgh,  
(Mr. Michael D. Sorel, P.E.), 1 June 1998, subject: Practice  
40mm Grenade Range, Plattsburgh AFB, Plattsburgh, NY.

2. Enclosed is the Statement of Clearance for the Explosive  
Ordnance Disposal (EOD) Range. This Statement of Clearance is  
accompanied by related enclosures. The Statement of Clearance  
for the Practice 40mm Grenade Range was enclosed with the  
memorandum referenced in 1d above.

3. During the period of 15 September through 20 November 1997,  
and 23 June through 11 November 1998, Human Factors Applications,  
Incorporated, under contract with the U.S. Army Engineering and  
Support Center, Huntsville (USAESCH), conducted a 100 percent  
surface and subsurface clearance to a depth of at least 4 feet in  
the area known as the Explosive Ordnance Disposal Range. Two  
deep disposal trenches were located and excavated to a depth of

CEHNC-OE-DC (200-1c)

16 JUL 1999

SUBJECT: Explosive Ordnance Disposal (EOD) Range, Plattsburgh  
Air Force Base (AFB), Plattsburgh, NY

10 feet and 16 feet respectively. The buffer zone around the EOD Range was cleared to a depth of 1 foot. The intent of this clearance was to remove all unexploded ordnance (UXO) and ordnance-related scrap. It is recommended that the EOD Range be used for any purpose for which the land is suited.

4. The EOD Range occupied approximately 6.5 acres in the southwest portion of the Air Force Base within a bermed area (encl 1, 2 and 3). The site was basically barren and flat except for a ridge at the northern boundary of the site and three, U-shaped, earthen berms in the center of the range that were used to contain explosions. The EOD Range was used to burn large quantities of Code H ordnance, especially 20mm cartridges. It also appeared that the trenches used for the burn operation were used to destroy other types of ordnance by detonation. The total area cleared at the EOD Range, to include the buffer zone, was 39.05 acres.

5. During the removal operation on the EOD Range, all anomalies were cleared. A UXO Safety Specialist from USAESCH was present onsite during all ordnance-related actions. Enclosure 4 lists the UXO items that were recovered and disposed of during the removal operations.

6. If you have any questions, please contact Mr. Bill Sargent, Project Manager, at commercial 256-895-1562 or facsimile 256-895-1378.

Original Signed by  
COL Walter J. Cunningham

4 Encls -

WALTER J. CUNNINGHAM  
COL, EN  
Commanding

**STATEMENT OF CLEARANCE  
EXPLOSIVE ORDNANCE DISPOSAL (EOD) RANGE  
PLATTSBURGH AIR FORCE BASE, NEW YORK**

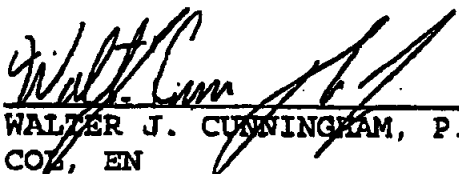
The following parcel of land (as indicated in encl 1, 2, and 3), located within the boundaries of Plattsburgh Air Force Base, in Clinton County, New York, has been given careful search and has been cleared of all dangerous and explosive ordnance reasonably possible to detect. The ordnance items listed on encl 4 were removed from the parcel.

It is recommended that:

The Explosive Ordnance Disposal Range be used for any purpose for which the land is suited.

This action has been conducted in accordance with Army Regulations 385-64 (Ammunition and Explosives Safety Standards), and DDESB approved Explosive Safety Submission, 405-90 (Disposal of Real Estate).

SUBMITTED BY:

  
WALTER J. CUNNINGHAM, P.E.  
COE, EN

16 JUL 1993

(date)

Commander

U.S. Army Engineering and Support Center, Huntsville

APPROVED BY:

\_\_\_\_\_  
(date)

**ENCLOSURES:**

1. General Site Map
2. Site Location Map
3. Site Grid Map with Survey Data
4. Listing of Ordnance Destroyed



FIGURE 1-2  
SITE LOCATION MAP

**PLATTSBURGH AIR FORCE BASE  
PLATTSBURGH, NY**

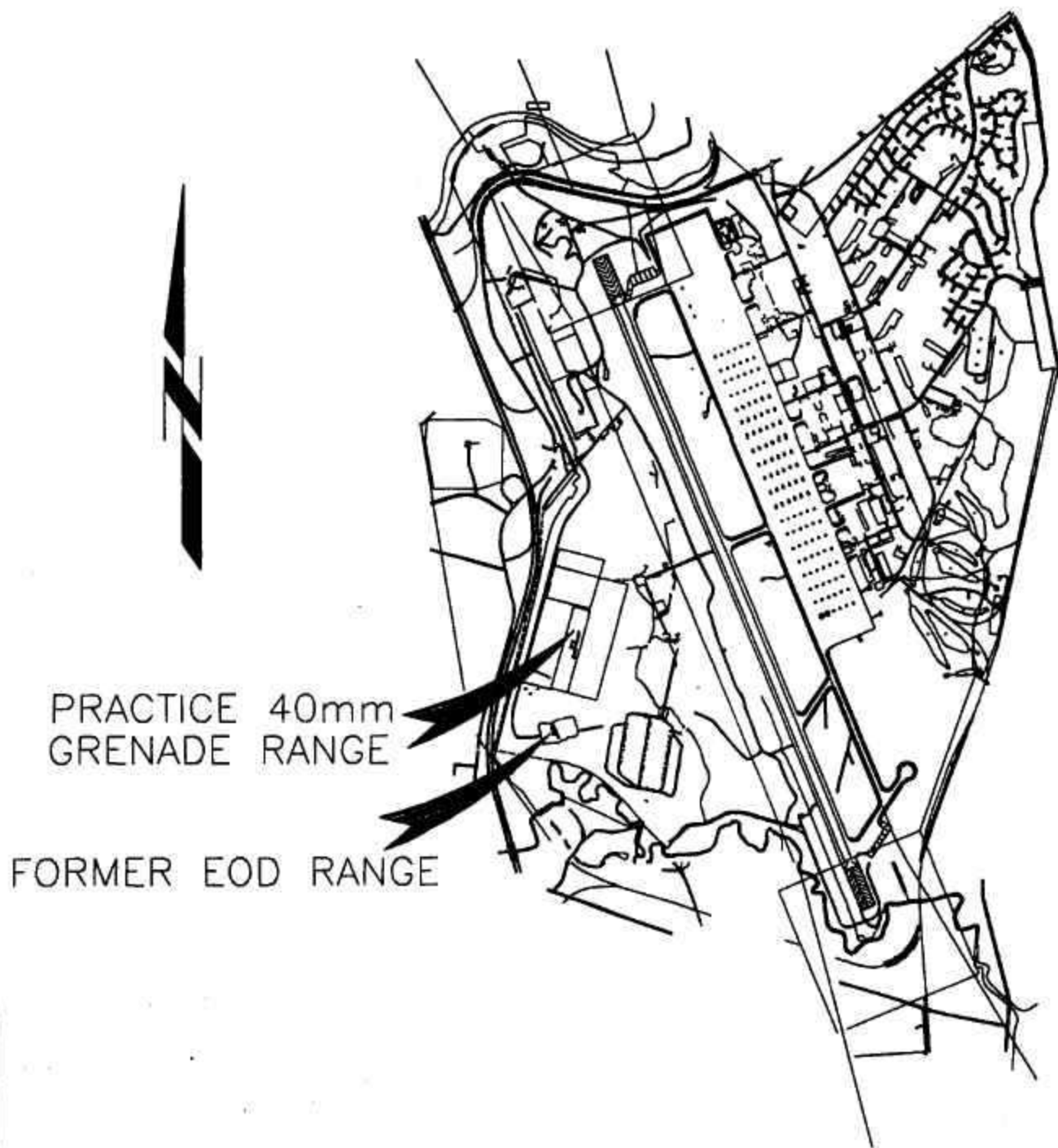
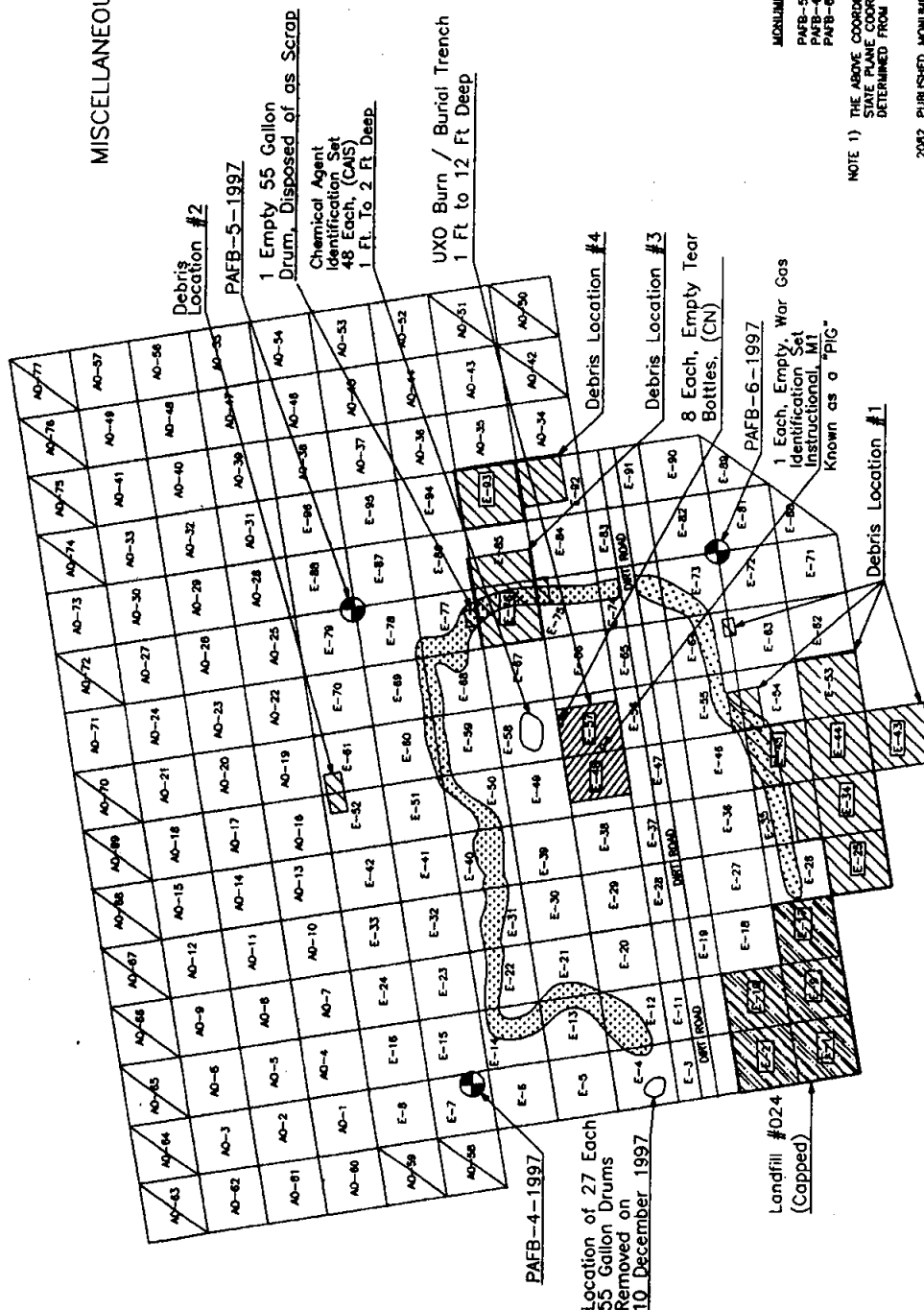


FIGURE 2-1  
MISCELLANEOUS LOCATIONS OF NON-UXO



- NOTE: PATTERN INDICATES THE BERM THAT BORDERS THE EOD RANGE THE AREA OUTSIDE THE BERM IS THE BUFFER ZONE  
TOTAL AREA CLEARED, 39.05 ACRES
- NOTE: PATTERN INDICATES THE UXO BURN / BURIAL TRENCH
- NOTE: PATTERN INDICATES LANDFILL GRIDS
- NOTE: GRIDS NOT CLEARED BECAUSE ADJACENT GRIDS CONTAINED NO UXO
- NOTE: CONCRETE MONUMENT WITH DISC SET BY CDS MARKED WITH

NOTE 1) THE ABOVE COORDINATE VALUES ARE BASED ON GRID NORTH, NEW YORK EAST STATE PLANE COORDINATE SYSTEM, NAD 83 (1983). COORDINATE VALUES WERE DETERMINED FROM CONVENTIONAL TERRESTRIAL SURVEY METHODS.

2082 PUBLISHED MONUMENTS USED FOR CONTROL ARE AS FOLLOWS:

MONUMENT	NORTHING	EASTING
PAFB-5-1997	211859.52	757650.17
PAFB-4-1997	211867.09	756532.23
PAFB-6-1997	211836.86	757743.46

STATION	NORTH	EAST
HANGAR	2,123,481.96	762,338.92
APRON	2,125,920.83	761,083.14

ALL COORDINATE AND LINEAR VALUES ARE REPORTED IN U.S. SURVEY FOOT.

SCALE IN FEET  
0 30 60 90 120 150 180 210 240 270 300

**HFA**

FORMER EOD RANGE  
MISCELLANEOUS LOCATIONS OF NON-UXO

**CDS** CONCRETE DISC SET BY CDS MARKED WITH

DATE: 10/10/97  
BY: [Signature]  
CHECKED: [Signature]  
APPROVED: [Signature]

SHEET  
REFERENCE  
NUMBER: 1  
SHEET 1 OF 1

**LIST OF ORDNANCE DESTROYED  
EXPLOSIVE ORDNANCE DISPOSAL RANGE  
PLATTSBURGH AIR FORCE BASE, NEW YORK**

1.	Actuator Explosive	83
2.	Air Craft Flare	43
3.	Bolt Explosive	9
4.	CAD Devices	87
5.	Explosive Transfer Assemblies	9
6.	Cal 50 Cartridge Case (primed)	1
7.	20mm Cartridge Case (primed)	600
8.	Flare Signal MK13	7
9.	Flares	33
10.	Fuze Practice Grenade	1
11.	Fuze Mortar PTT M65	33
12.	Fuze Bomb Nose M103	4
13.	Fuze Bomb Tail M132	1
14.	Fuze Bomb Nose M193	1
15.	Fuze Bomb Tail M100 Series	1
16.	Fuze Bomb Tail M123	2
17.	20mm Projectile	6,069
18.	Projectile 30mm Solid Shot	3
19.	Projectile 57mm RR M308 WP	1
20.	Mortar 60mm Illumination M83	27
21.	Igniter JATO	20
22.	JATO Bottle	1
23.	Propellant, Starter Cartridge	1
24.	Igniter AC Starter Cartridge	46
25.	MK23 Practice Bomb	6
26.	Incendiary Bomb 4lb (Hex Nose)	32
27.	Incendiary Bomb 10lb	41
28.	Bomb Fuze Adapter	16
29.	Burster Tubes	5
30.	Chaff 2.75 inch	2
31.	2.36 inch Rocket Motor	1

**APPENDIX C**

**TRANSCRIPT OF PUBLIC MEETING**



1  
2  
3 PUBLIC MEETING BRIEFING  
4 FOR  
5 THE PROPOSED SITE PLAN FOR SITE SS-026  
6 EXPLOSIVE ORDNANCE DISPOSAL RANGE  
7  
8

9 Taken on Thursday, December 12, 2002  
10 at 7:00 p.m. at the Old Courthouse  
11 Plattsburgh, New York.  
12 -----  
13

14 APPEARANCES:

15 MIKE SOREL, Chairman  
16 BRUCE PRZYBYL, URS Greiner, Inc.  
17 STEVE GAGNIER, AFBCA  
18  
19  
20  
21

22 COURT REPORTERS ASSOCIATES  
23 117 Bank Street, Burlington, Vermont 05401

24 1-800-439-4593.  
25

THURSDAY, DECEMBER 12, 2002; 7:00 P.M.

MR. SOREL: I'd like to begin the public meeting for the Proposed Plan for Site SS-026, Explosive Ordnance Disposal Range. I'm Mike Sorel, the BRAC Environmental Coordinator working for the Air Force Real Property Agency at Plattsburgh. I will be presiding over this meeting, the main purpose of which is to allow the public the opportunity to comment on the Air Force's actions for this site.

Assisting me in tonight's presentation are Steve Gagnier with the Air Force Real Property Agency and Bruce Przybyl, the project manager for URS Greiner. We are here to provide you with answers to technical questions you may have about the remedial alternatives being considered by the Air Force.

Tonight's agenda will consist of a summary of data gathered at the site and a description of the preferred remedial action. After that, we will move to the most important part of this meeting -- the part where you provide your comments on the remedial action.

As you can see, everything being said here tonight is being taken down word-for-word by a

1 professional court reporter. The transcript will  
2 become part of the Administrative Record for the  
3 site.

4 We would like everyone to complete the Sign-in  
5 sheet at the door.

6 At the conclusion of the presentation, we'll  
7 open the floor to comments and questions. We  
8 request that all questions be held to the end of the  
9 presentation. If you have a prepared statement, you  
10 may read it out loud or turn it in without reading  
11 it. In any case, your comments will become part of  
12 the record. We have cards at the front table for  
13 your use for written comments. If you turn in any  
14 written comments, please write your name and address  
15 on them.

16 If you later decide to make a comment, you may  
17 send additional comments to us at this address. We  
18 will accept comments until January 8, 2003. I will  
19 show this address slide again at the end of the  
20 meeting.

21 The final point is that our primary purpose  
22 tonight is to listen to you. We want to hear your  
23 comments on any issues you are concerned about, and  
24 we will try to answer any questions you may have.  
25 We want you to be satisfied that the action we take

1 will properly and fully address the problems at the  
2 site.

3 Now I'd like to turn over the meeting to Bruce  
4 Przybyl.

5 MR. PRZYBYL: Good evening. For the  
6 presentation we'll discuss the Air Force's Preferred  
7 Alternative for Site SS-026. Site SS-026 is a  
8 former Explosives Ordnance Disposal Range or EOD  
9 Range.

10 The site covers about 8 acres of the  
11 southwestern corner of the base, just north of the  
12 Salmon River and east of the Northway.

13 This aerial photograph was taken in 1995. The  
14 site shown here is situated about 600 feet west of  
15 the Weapons Storage Area, about 350 feet north of  
16 the Salmon River, about 700 feet east of I-87, and  
17 immediately northeast from the former construction  
18 debris landfill which is site LF-024, right in this  
19 area here. A record of decision was previously  
20 executed for LF-024 in 1997. A cap has been  
21 constructed over the landfill and groundwater is  
22 routinely monitored at the landfill. This is a  
23 little closer view of the site.

24 The site is generally non-vegetated and sandy.  
25 Immediately south of the site, the topography slopes

1 steeply over a 150-foot stretch, right in this area  
2 here. Groundwater flows to the south-southwest  
3 toward the Salmon River.

4 The area was used for demolition of unused  
5 ordnance, flares, and tear gas. The items to be  
6 disposed were placed with wood and diesel fuel in  
7 burn kettles within earthen berms constructed at the  
8 site, such as these shown in 1995. These berms were  
9 replaced and moved from time to time. The items  
10 were ignited using powder and fuse.

11 Investigation at Site SS-026 began in 1992 with  
12 a preliminary assessment. This consisted primarily  
13 of a records search and concluded that further  
14 investigation was necessary based on the past  
15 ordnance disposal and defoliant use at the site.

16 In 1994, site investigation field data  
17 collection was conducted. First, Air Force  
18 unexploded ordnance clearing personnel cleared areas  
19 of the site where borings and samples were to be  
20 collected. They accomplished this by metal detection  
21 and trenching. Household waste was discovered east  
22 of the bermed area.

23 The site investigation consisted of advancing  
24 seven borings, installing four groundwater  
25 monitoring wells, and chemically analyzing eight

1 soil samples and five groundwater samples. Based on  
2 the results, a human health risk assessment was  
3 performed. The assessment concluded that residual  
4 chemicals at the site posed no unacceptable risk.

5 In 1997 and 1998, an extensive investigation for  
6 unexploded ordnance was conducted in coordination  
7 with the United States Army Corps of Engineers.  
8 During the investigation, buried drums, general  
9 debris and chemical warfare training kits were  
10 discovered.

11 This graphic shows where the initial site  
12 investigation samples were collected, primarily in  
13 the main part of the range, and where debris, drums  
14 and training kits were discovered during range  
15 clearing.

16 The purple areas shown here are areas where at  
17 least a small amount of debris, such as household  
18 trash, was present.

19 A small number of chemical warfare training kits  
20 were discovered at two locations. That is there and  
21 there. One is tear gas. These were kits used to  
22 train soldiers to identify gasses such as mustard  
23 gas and chloropicrin. Empty tear gas canisters were  
24 also found. These were removed and properly  
25 disposed. The range clearing consisted of

1 magnetically mapping and selectively sifting 6.5  
2 acres of soil to depths ranging from 4 to 16 feet  
3 below the surface. A 32.5-acre buffer was also  
4 cleared to a depth of one foot around the core area.  
5 All unexploded and spent ordnance found was properly  
6 destroyed.

7       Here to the east, 27 intact drums of waste  
8 petroleum product were uncovered. The contents of  
9 the drums were properly disposed of. In addition,  
10 the soil in the area was tested and contamination  
11 was not present.

12       In 1999, one additional well was installed and  
13 17 soil samples, two groundwater seep samples, and  
14 six groundwater samples were collected as part of  
15 continuing sampling for the Site Investigation. In  
16 addition, 14 test trenches were dug to delineate the  
17 debris discovered during range safing.

18       Some of the chemical analyses performed were  
19 targeted to detect chemical warfare agents and their  
20 breakdown products. These compounds were not  
21 detected or were detected at concentrations well  
22 below that which would pose a concern to public  
23 health. The overall sampling results indicated only  
24 minor impacts to soil and groundwater.

25       Only one area of concern was identified to the

1 south of the range. In this small area, a tar-like  
2 material was found in soil that contained high  
3 levels of polycyclic aromatic hydrocarbons, also  
4 know as PAHs. This area was subjected to additional  
5 trenching and sampling in 2001.

6 This graphic shows the location of samples  
7 collected in 1999 and 2001.

8 Notice that the areas where debris was found are  
9 fewer and much smaller than suspected following the  
10 range safing. The original areas were subjected to  
11 thorough walkovers, shovel testing, and excavation  
12 with a backhoe. For the most part, only old bottles  
13 and cans were found. Two areas were found to the  
14 south of the range that did contain a significant  
15 amount of surface debris; this was mostly metal.  
16 The metal was removed from the site as scrap metal.

17 In this area around the red circle, the extent  
18 of tar-like material was investigated. This  
19 material and surrounding soil was removed and the  
20 area resampled. The remaining soils in the area  
21 were found to be of no significant concern.

22 As part of the site investigation, a human  
23 health risk assessment was performed to evaluate  
24 current risks and potential future risks given  
25 hypothetical residential development of the site. A



1 significant cancer risk was calculated for future  
2 residents resulting from exposure to chemicals in  
3 the tar-like material and surrounding soil.

4 Once again, we will show where that tar-like  
5 material was, down in just that one small area. The  
6 concentrations of the chemicals causing the risk,  
7 the PAHs, were almost a thousand times greater in  
8 that area of tar-like material than in the other  
9 samples collected at the site.

10 In 2001, all material was removed from the site  
11 during an investigation that included trenching and  
12 sampling. Consequently, there is no remaining risk  
13 posed to human health by residual chemicals at the  
14 site.

15 Because all materials potentially causing a risk  
16 at the site have been removed during the various  
17 activities conducted at the site since 1997, the  
18 preferred alternative for the site is no further  
19 action. There will be no restrictions emplaced on  
20 land use of the site.

21 From a UXO standpoint, the U.S. Army Corps of  
22 Engineers has issued a statement of clearance for  
23 the site indicating that the land can be used for  
24 any purpose for which it is suited.

25 The Air Force will, however, place a

1 notification in future property transfer documents  
2 indicating the past use of the site as an EOD Range.

3 Do you have any questions? I'll be happy to take  
4 them at this time.

5 MR. BOOTH: Would you pull up one of  
6 your maps again that shows the yellow dotted line in  
7 the lower left-hand corner and explain what that  
8 means again?

9 MR. SOREL: This is Mr. Booth  
10 speaking. If you do have a question, identify  
11 yourself for the record.

12 MR. BOOTH: I will.

13 MR. PRZYBYL: This is what you are  
14 referring to? There are several IRP sites that were  
15 assessed separately prior to investigating the EOD  
16 Range. It was a former construction debris  
17 landfill. There was a ROD written for it and it was  
18 ultimately capped, and there are monitoring wells  
19 located here that are routinely monitored as a part  
20 of this treatment for LF-024.

21 MR. BOOTH: It is further west than  
22 the goat experimentation area is?

23 VOICE: Actually north.

24 MR. PRZYBYL: It's almost due west.

25 MR. BOOTH: That is it?

1 MR. PRZYBYL: Right.

2 MR. BOOTH: Thank you.

3 THE COURT: Any other questions?

4 MR. BOOTH: You want a comment from a  
5 citizen?

6 MR. SOREL: Please.

7 MR. BOOTH: I'm Robert T. Booth, and  
8 I'm a RAB committee member and I have been here all  
9 my life.

10 We sat through many years of the progress of  
11 this and other areas and step-by-step have watched  
12 these things take place and it's now down to the  
13 conclusion. And I will tell you that to old time  
14 citizens of the City of Plattsburgh, it looks like a  
15 very satisfactory job has been done and I give it my  
16 blessing, for what that's worth.

17 MR. SOREL: I am happy to have those  
18 kind of comments.

19 MR. BOOTH: It's poor to have a  
20 hearing without somebody saying something.

21 MR. SOREL: Any other comments?

22 Okay. If you should later decide to make  
23 additional comments on the proposed action, please  
24 mail them to this address by January 8, 2003. Also,  
25 I would like to add that the Proposed Plan is

1 available for review at the Information Repository  
2 located in Special Collections, Feinberg Library,  
3 SUNY-Plattsburgh. That concludes the public  
4 meeting.

5

6 (The hearing concluded at 7:20 p.m.)

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## C E R T I F I C A T E

I, Carol A. Boone, Notary Public and Court Reporter, do hereby certify that the foregoing pages, numbered 2 through 12, inclusive, are a true and accurate transcription of my stenographic notes of a public hearing, taken before me on Thursday, December 12, 2002, for use in the matter of PUBLIC MEETING BRIEFING FOR THE PROPOSED PLAN FOR SITE SS-026, EXPLOSIVE ORDNANCE DISPOSAL RANGE, now pending in action.

Carol A. Boone

Carol A. Boone, Court Reporter



# **APPENDIX D**

## **RESPONSIVENESS SUMMARY**



DEPARTMENT OF THE AIR FORCE  
AIR FORCE REAL PROPERTY AGENCY



January 30, 2003

MEMO FOR RECORD

SUBJECT: Responsiveness Summary: Public Comment Period for the Proposed Plan for Installation Restoration Program (IRP) Site SS-026, Explosive Ordnance Disposal (EOD) Range

**A. OVERVIEW**

Site SS-026 covers approximately eight acres of the southwestern corner of the former Plattsburgh AFB. It lies just north of the Salmon River and east of the Northway. The site was used for demolition of unexploded ordnance (UXO), flares, and tear gas.

Site investigations of SS-026 began in 1994. At this time, household waste was discovered east of the bermed area. A human health risk assessment was performed and concluded that residual chemicals at the site posed no unacceptable risk. In 1997 and 1998, an extensive investigation for unexploded ordnance was conducted in coordination with the U.S. Army Corps of Engineers. During the investigation, buried drums, general debris, and chemical warfare training kits were discovered. The overall sampling results indicated only minor impacts to soil and groundwater. Also, twenty-seven intact drums of waste petroleum product were uncovered. Soil tests of the area showed that contamination was not present. Only one area of concern was identified to the south of the range. In this small area, a tar-like material was found in soil that contained high levels of polycyclic aromatic hydrocarbons, also known as PAHs. This area was subjected to additional trenching and sampling in 2001.

In 2001, all the material of concern was removed from the site. Consequently, there is no remaining risk posed to human health by residual chemicals at the site, and the Air Force's preferred alternative for SS-026 is "No Further Action." There will be no restrictions emplaced on land use of the site. From a UXO standpoint, the U.S. Army Corps of Engineers has issued a statement of clearance for the site indicating that the land can be used for any purpose for which it is suited. The Air Force will, however, place a notification in future property transfer documents indicating the past use of the site as an EOD Range.



## **B. PUBLIC MEETING AND PUBLIC COMMENT PERIOD**

A Public Meeting was held on the recommended alternative for SS-026/Explosive Ordnance Disposal Range on December 12, 2002, at 7:00 p.m. It was held at the Old Court House in the City of Plattsburgh, County of Clinton, NY. A prepared statement was read by Mr. Michael D. Sorel, PE, the Site Manager/Base Realignment and Closure (BRAC) Environmental Coordinator for the Air Force Base Real Property Agency (AFRPA). Mr. Bruce Przybyl of URS Greiner detailed the proposed plans for the audience. The floor was then opened to the public for questions and comments. Concluding the meeting was a statement by Mr. Sorel that additional comments could be sent to the Air Force. As advertised in the Plattsburgh *Press-Republican*, the public comment period ran from December 10, 2002, to January 8, 2003. The Public Meeting was recorded by Ms. Carol Boone, a court reporter of Court Reporters Associates, Burlington, Vermont.

## **C. SUMMARY OF COMMENTS RECEIVED DURING THE PUBLIC COMMENT PERIOD AND AGENCY RESPONSES**

Mr. Robert Booth, a member of the public, asked to see one of the maps that showed a yellow dotted line in the lower left-hand corner. He asked for clarification of this item. Mr. Przybyl told him there were several IRP sites that were assessed separately prior to investigating the EOD Range. The dotted line delineated the limits of a former construction debris landfill (LF-024). There was a Record of Decision (ROD) written for it and it was ultimately capped. Mr. Przybyl pointed out the locations of the monitoring wells and said they are routinely monitored as part of the remedy for LF-024. Mr. Booth wanted to know if it is located further west than where the "goat experimentation" area is situated. Mr. Przybyl said it is almost due west.

Mr. Booth added that he is a Restoration Advisory Board (RAB) committee member and that he has lived here all of his life. He said that the RAB has sat through many years of the progress of this and other areas and step-by-step have watched these things take place and it is now down to the conclusion. He said that to "old time" citizens of the City of Plattsburgh, it looks like a very satisfactory job has been done, and that he gives it his blessing, for what it is worth. Mr. Sorel told Mr. Booth that he is happy to have those kinds of comments. Mr. Booth summarized his comments by noting that it is poor to have a hearing without somebody saying something.

From the time of the Public Meeting until the deadline of January 8, 2003, no other comments or questions were received by the Air Force regarding this subject.

A handwritten signature in black ink, appearing to read "Michael D. Sorel", is positioned above the printed name.

MICHAEL D. SOREL, PE

Site Manager/

BRAC Environmental Coordinator

**APPENDIX E**

**NYSDEC CONCURRENCE LETTER**

**New York State Department of Environmental Conservation  
Division of Environmental Remediation, 12<sup>th</sup> Floor**

625 Broadway, Albany, New York 12233-7011  
Phone: (518) 402-9706 • FAX: (518) 402-9020  
Website: [www.dec.state.ny.us](http://www.dec.state.ny.us)



MAR - 4 2003

Mr. Michael Sorel, P.E.  
AFRPA/Plattsburgh  
22 U.S. Oval, Suite 2200  
Plattsburgh, NY 12903

Re: Site SS-026 (Explosive Ordnance Disposal Range)  
Plattsburgh Air Force Base, #510003

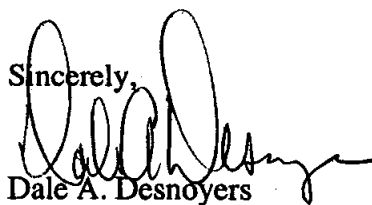
Dear Mr. Sorel:

The New York State Departments of Health and Environmental Conservation have reviewed the Draft-Final Record of Decision for the Explosive Ordnance Disposal Range, IRP Site SS-026, at the former Plattsburgh Air Force Base. Based upon this review, it is our understanding that the Air Force Real Property Agency has determined that successful remedial measures have been performed at the site through removal actions and, therefore, no further action is necessary.

The state concurs with this determination.

Please contact James Quinn at (518) 402-9697 if you have any questions on this matter.

Sincerely,



Dale A. Desnoyers

Director

Division of Environmental Remediation

cc: G. Pavlou, USEPA